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INTEGRATED INFORMATION SUPPORT SYSTEM (IISS)
Volume VI - Network Transaction Manager Subsystem
Part 6 - Network Transaction Manager (NTM) Message Processing Unit Product Specification

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FOREWORD

This technical report covers work performed under Air Force Contract F33600-87-C-0464, DAPro Project. This contract is sponsored by the Manufacturing Technology Directorate, Air Force Systems Command, Wright-Patterson Air Force Base, Ohio. It was administered under the technical direction of Mr. Bruce A. Rasmussen, Branch Chief, Integration Technology Division, Manufacturing Technology Directorate, through Mr. David L. Judson, Project Manager. The Prime Contractor was Integration Technology Services, Software Programs Division, of the Control Data Corporation, Dayton, Ohio, under the direction of Mr. W. A. Osborne. The DAPro Project Manager for Control Data Corporation was Mr. Jimmy P. Maxwell.

The DAPro project was created to continue the development, test, and demonstration of the Integrated Information Support System (IISS). The IISS technology work comprises enhancements to IISS software and the establishment and operation of IISS test bed hardware and communications for developers and users.

The following list names the Control Data Corporation subcontractors and their contributing activities:

SUBCONTRACTOR	ROLE
Control Data Corporation	Responsible for the overall Common Data Model design development and implementation, IISS integration and test, and technology transfer of IISS.
D. Appleton Company	Responsible for providing software information services for the Common Data Model and IDEF1X integration methodology.
ONTEK	Responsible for defining and testing a representative integrated system base in Artificial Intelligence techniques to establish fitness for use.
Simpact Corporation	Responsible for Communication development.

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Structural Dynamics Research Corporation	Responsible for User Interfaces, Virtual Terminal Interface,and Network Transaction Manager design, development, implementation, and support.
Arizona State University	Responsible for test bed operations and support.

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SECTION 1

SCOPE

1.1 Identification

This specification establishes the 'as built' design of the Message Processing Unit component of the Network Transaction Manager Subsystem.

1.2 Functional Summary

The Network Transaction Manager (NTM) Subsystem provides the control and support services to appication processes that are grouped together logically in clusters called Application Process Cluster (APCs). These application processes communicate with one another by sending messages via the NTM. The NTM delivers these messages to the destination application processes while also providing other services for the APs such as message pairing, AP initiation, and message queuing.

SECTION 2

DOCUMENTS

2.1 Reference Documents

The following pertinent reference materials are available at the ICAM Program Office.

1. Interim Reports

2. Life Cycle Documents
   (a) ITR620150002U Project Scope

   (b) PMP620150000 Master Plan and Schedule

   (c) SAD620150000 State-of-the-art Review

   (d) SRD620140000 System Requirements Document

   (e) SDS620140000 System Design Specifications

   (f) DS6201420000 Development Specification - Network Transaction Manager Subsystem

The following reference materials are available from Digital Equipment Corporation.

(a) VAX/VMS I/O User's Guide (Volume 1), Order No. AA-M540B-TE

(b) VAX/VMS I/O User's Guide (Volume 2), Order No. AA-M541B-TE

(c) VAX COBOL Language Reference Manual, Order No. AA-H631C-TE

(d) VAX-11 FORTRAN Language Reference Manual, Order No. AA-D034C-TE

Other reference materials are as follows.

(a) International Organization for Standardization, Open Systems Interconnection, Information Processing Systems - Basic Reference Model, TC 97/16 N 719

(b) International Organization for Standardization, Open Systems Interconnection, Draft, Connection-Oriented Transport Service Definition TC 97/16 N 860

(c) International Organization for Standardization, Open Systems Interconnection, Draft, Connection-Oriented Transport Protocol Specification Version 1.2, TC 97/16 N 861

(d) International Organization for Standardization, Open Systems Interconnection, Draft, Connection-Oriented Session Protocol Definition TC 97/16 N 856

(e) National Bureau of Standards, Specification of the Transport Protocol, Volume 2: Basic Class Protocol, Draft Report, September 1981, Report No. ICST/HLNP-81-12

(f) National Bureau of Standards, Specification of the Transport Protocol, Volume 3: Extended Class Protocol, Draft Report, September 1981, Report No. ICST/HLNP-81-13

(g) National Bureau of Standards, Specification of the Transport Protocol, Volume 4: Network Interfaces, Draft Report, September 1981, Report No. ICST/HLNP-81-14

2.2 Terms And Abbreviations

1. Interhost Communication Primitives (IHC's) - A set of routines used by the NTM to interface to the operating system or to other operating systems which have an NTM running. They are always system dependent.

2. Interprocess Communication Primitives (IPC's) - A set of routines used to communicate between two processes on the same computer. They are always system dependent.

SECTION 3

REQUIREMENTS

3.1 Structural Descriptions

The Message Processing Unit has three stages of operation: Start-up, Input Processing, and Shutdown. The Monitor Application Process (Monitor AP) initiates the first instance of and MPU, the Monitor MPU. All other MPUs are then initiated by the Monitor MPU.

3.2 Functional Flow Description

The Start-up stage of an MPU begins with getting the MPU's process name from the operating system and creating both high- and low-priority mailboxes. The MPU then sends a message to the Monitor AP requesting the status of the tables on the cluster and waits for a response from the Monitor AP. If the response does not arrive within a given amount of time, the MPU will send an "AP CLUSTER TERMINATING" message to the Monitor AP and will then proceed to terminate. If the message does arrive saying that the tables are correct, then the MPU will populate its tables with the information saved in local files via table initialization procedures. The MPU then sends an "AP CLUSTER ALIVE" message to the Monitor AP and waits for final start up instructions.

As a final instruction, if an error occurs during the IISS start-up, the Monitor AP will instruct each Message Processing Unit to terminate. Also, if the final instruction message does not arrive within a certain period of time, the MPU will begin the AP Cluster termination process on its own. However, if the IISS start-up is successful, then the Monitor AP will send a "HOST ACTIVE" message to signal the MPU that Start-Up is complete. The MPU is now ready for its second phase of operation: Input Processing.

During the Input Processing stage, the MPU remains available to the users who are logged onto the IISS and to other application processes. User application processes can communicate with one another and initiate other application processes by sending messages through the MPU. The MPU processes these messages in two phases: Manage Message, and Process Message.

The Manage Message Phases authorizes the message, verifies the message category, assigns a serial number, and completes the header of messages from on the cluster. If the message is from another cluster, Manage Message verifies that the message arrives at the correct destination. If a message error occurs, the MPU will send and error message to the source AP. If a system error occurs, the MPU will send an error message to the Monitor AP. All messages are logged in Manage Message. This is also where the type of processing to be done on the message is determined. Messages destined to go off-host are sent to the Communication cluster's MPU; messages destined to stay on-host

but off-cluster are delivered to the off-cluster MPU; and messages destined for on-cluster are processed by phase two of Input Processing: Manage Process.

Manage Process handles each message destined for the AP Cluster according to its message category and type. Some messages cause the initiation of other application processes in the IISS; others are simply delivered to the destination AP. All message processing done by the MPU requires table access. Information about individual AP instances and types of APs are kept in several tables.

For example, every time an initiation message arrives at the Manage Process phase, the MPU must check the AP Characteristics Table to be sure that the AP can be started by that type of initiation message. If the AP can be initiated by that type of message, the MPU must then check the AP Information Table to be sure that the maximum number of instances allowed has not yet been reached. Finally, if the AP is initiated sucessfully, an AP Status Table entry is created for that AP. The AP Status Table has an entry for every instance of an application process that is communicating via the IISS. There are many different types of application processes running under the IISS and all are at different stages of processing at any given moment. All of this information is stored in tables for the MPU's use in order that all kinds of messages may be processed.

Also during the Input Processing phase of the MPU, a timer is set to a fixed length of time. When the timer goes off, a checking routine is invoked. The checking routine looks at certain tables and processes each entry in the table according to its status. For example, the Message Pair table has an entry for each message that requires a response. If the time-out time on the entry has passed (compared to the system's time) then the MPU deletes the entry and send a "TIME-OUT ERROR" message to the Monitor AP. The checking routine also processes messages that have been stored up in queues. For example, if the MPU tries to deliver a message to an AP whose mailbox is full, the message will be queued so that it can be sent again later by the checking routine. After completion of the checking routine, the timer is reset so that it may be invoked again after a fixed period of time.

Besides handling application process messages, the MPU has a high-priority mailbox from which it reads system command messages from the IISS operator via the Monitor AP. For instance, the operator can request a list of all active APs on the MPUs cluster or request the shutdown of a particular application process. The system command message that requires the MPU to go into its final stage of operation, SHUTDOWN, is a "SHUTDOWN AP CLUSTER" message from the operator via the Monitor AP.

The Shutdown stage of the Message Processing Unit operates basically like the Input Processing stage: messages are still processed by the MPU but in a different way. When the MPU received the "SHUTDOWN APC" message, it looks at each application process in the AP Status Table and, according to

each AP's characteristic, aborts the AP or informs it that it must shut itself down. The MPU then checks its mailboxes for a message from each of the APs that were told to shutdown. Only AP status messages and system commands from the Monitor AP (such as "CANCEL SHUTDOWN") are processed normally during the shutdown phase. All other types of messages are logged and ignored by the MPU. The MPU systematically checks to see if all the application processes on the cluster are dead. If no more messages are in the mailboxes to be processes and all the APs are no longer running, the MPU invokes its final shutdown processing. The AP Cluster initialization data is saved in a local file where it will be used during the next IISS or cluster startup. The MPU's input mailboxes are deleted and an "APC TERMINATING" message is sent to the Monitor AP. The Message Processing Unit then ends execution.

3.3 Interfaces

The Network Transaction Manager maintains communications with any other process through mailboxes. The mailboxes are managed by the Interprocess Communication Primitives (IPC's).

Communications with the remote computer is accomplished through the Communication sub-system process which will be running when there are other hosts to communicate with.

3.4 Program Interrupts

As mentioned previously, NTM is interrupt driven with interrupts coming either from the IPC's on behalf of any other process which may be another MPU or any other AP. Waiting for these interrupts is performed by one of the IPC wait primitives. If a response must be received within a particular time interval, the IPC's associated with timing are used along with one of the wait's.

3.5 Timing And Sequence Description

The NTM does not depend on any particular timing sequences.

3.6 Special Control Features

The Network Transaction Manager Subsystem does not include any special control features as defined in the ICAM Documentation Standards manual.

3.7 Storage Allocation

3.7.1 Data Base Definition - None.

3.7.1.1 File Description

NTM usees lots of files for table handling. This involves reading the initial values of the tables as well as using files for table overflow handling.

3.7.1.2 Table Description

The NTM Tables provide both static and dynamic data to the NTM MPU. The static data consists of configuration data, such as the location of an AP within the IISS, characteristics of a given AP, etc. The dynamic data consists of the run-time status of the NTM components, the IISS host machines, and the user's APs. There are currently fifteen NTM Tables. Their content is described in detail in the Development Specification.

3.7.1.3 Item and Constant Description

3.7.2 CPC Relationship

3.8 Object Code Creation

The generic portion of NTM is written in COBOL and 'C'. This has been successfully compiled on a VAX 11/780 under VMS, an IBM 3084 under MVS, and a Honeywell Level 6 under Mod 400.

The machine specific code of the NTM is written in COBOL. The different methods of handling files must be dealt with separately on each machine. This has been successfully compiled on a VAX 11/780 under VMS, an IBM 3084 under MVS, and a Honeywell Level 6 under Mod 400.

The minimum computer hardware and software required to create and run NTM in the IISS environment is documented in the Installation Guide for IISS on the VAX and in the Installation Guide for IISS on the IBM.

3.9 Adaption Data

In order to tailor NTM to either the VAX or the IBM, there are a few system dependent files required. For example, the table file handlers would have to be tailored to the particular machine you are on.

The command procedures to the create NTM executables are specific to each computer and can be found under Software Configuration Management.

3.10 Detail Design Description

The upcoming program details were derived from all modules that were selected when the following Documentation Group(s) was chosen:

NTMMPU

3.10.1 Main Program List

The following is a list of all "Main Programs" which are modules that are not called by any other module being documented here. These modules are either program entry points or, if they are hooked into another set of programs via subroutine calls, they are the points the external programs can call and therefore enter through. To differentiate between the two types of entry points, look at the individual Module Documentation (section 3.10.8) and look at Module Type for each of the Main Program modules listed. Note whether the routine is a Program, Subroutine, or Function. If it is a Program, it is truly a main program entry point. If not, then it is merely called by other programs not being documented here.

NTM/MPU Main Program List

Module Name	Purpose
	SUBROUTINE USED TO REPLACE OR MODIFY THE IISS SYSGEN DATA
APCLOG	NOTIFY ACTLOG.DAT THAT AN APC HAS STARTED.
AUTTBL	TABLE MANAGEMENT FUNCTIONS FOR THE AUTHORITY CHECK TABLE.
HSTTBL	TABLE MANAGEMENT FUNCTIONS FOR THE HOST STATUS TABLE
INICHK	CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
LSTTBL	TABLE MANAGEMENT FUNCTIONS FOR THE LINK STATUS TABLE.
MPUGEN	PURPOSE NOT KNOWN - ACTIVE CODE.
MPUINI	MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.
OUTGDM	PURPOSE NOT KNOWN - STUBBED OUT.
PRGDAK	PURPOSE NOT KNOWN - STUBBED OUT.

3.10.2 Module List

The following is a list of all the modules being documented here along with their purpose. Each module has a unique name, no matter what language it was written in.

NTM/MPU Module List

Module Name	Purpose
	SUBROUTINE USED TO REPLACE OR MODIFY THE IISS SYSGEN DATA
ABORT	PROCESS MESSAGE TYPE AB - ABORT APPLICATION
ACTINI	LOAD THE AUTHORITY CHECK TABLE FROM THE AUTHORITY CHECK FILE.
ACTTBL	TABLE MANAGEMENT FUNCTIONS FOR THE AUTHORITY CHECK TABLE
ADDPR	ADD ENTRY TO MESSAGE PAIR TABLE.
ALDEAD	CHECK IF ALL APS ON APC ARE DEAD
APCLOG	NOTIFY ACTLOG.DAT THAT AN APC HAS STARTED.
APCTBL	TABLE MANAGEMENT FUNCTIONS FOR THE AP CLUSTER STATUS TABLE.
APDEAD	PROCESS AP DYING MESSAGE
APIINI	INITIALIZE THE AP INFORMATION TABLE.
APITBL	TABLE MANAGEMENT FUNCTIONS FOR THE AP ROUTING TABLE
APOINI	INITIALIZE AP OPERATING TABLE.
APOTBL	TABLE MANAGEMENT FUNCTION FOR THE AP OPERATING TABLE.
APSINI	INITIALIZE THE AP STATUS TABLE.
APSTAT	PROCESS AP STATUS MESSAGES.
APSTBL	TABLE MANAGEMENT FUNCTIONS AP STATUS TABLE.
APTINI	INITIALIZE THE AP CHARACTERISTICS TABLE.

NTM/MPU Module List

Module Name	Purpose
APTTBL	TABLE MANAGEMENT FUNCTIONS FOR THE AP CHARACTERISTIC TABLE.
AUTMSG	AUTHORITY TABLE CHECK TO SEE IF MESSAGE CAN BE SENT.
AUTTBL	TABLE MANAGEMENT FUNCTIONS FOR THE AUTHORITY CHECK TABLE.
CATTBL	TABLE MANAGEMENT FUNCTIONS FOR THE MESSAGE CATEGORY TABLE.
CDMFIL	REQUEST NEW TABLE FROM CDM.
CHDPRC	CHILD TABLE PROCESSING.
CHDSTM	PROCESS CHILD STATUS MESSAGE.
CLDCHK	CHECK CHILD TABLE FOR RESERVED ENTRIES.
CLDINI	INITIALIZE CHILD TABLE.
CLDTBL	TABLE MANAGEMENT FUNCTIONS FOR THE CHILD TABLE.
CLNHSD	PURPOSE NOT KNOWN - STUBBED OUT.
CLNUP	CLEAN UP THE AP STATUS ENTRY AND CHILD TABLE.
CMPHDR	COMPLETE MESSAGE HEADER.
CNCLSD	PROCESS CANCEL SHUT DOWN MESSAGE ON UI APC.
CRTPRC	CREATE PROCESSES (DETACHED) ON THE VAX.
DELCLD	DELETE CHILD ENTRY FROM CHILD TABLE.
DELPRC	DELETE PROCESSES ON THE VAX.

NTM/MPU Module List

Module Name	Purpose
DETCOM	DETERMINE CORRECT COMM AP.
DIRTBL	TABLE MANAGEMENT FUNCTIONS FOR THE DIRECTORY TABLE.
DLVMSG	DELIVER MESSAGE TO THE AP.
DLVQUE	QUEUE MESSAGES TO ON APC AP'S IN DELIVER MESSAGE.
EXCMPU	EXECUTE MESSAGE PROCESSING UNIT.
FSTART	FINAL START-UP PROCEDURE.
GDMSGS	PURPOSE NOT KNOWN - ACTIVE CODE.
GENSER	GENERATE MESSAGE SERIAL NUMBER.
GETNAM	VAX PROCEDURE TO GET AP'S OS PROCESS NAME.
GRDTBL	TABLE MANAGEMENT FUNCTIONS FOR THE GUARANTEED DELIVERY TABLE.
HSTNRQ	HOST NAME REQUEST PROCESSING.
HSTTBL	TABLE MANAGEMENT FUNCTIONS FOR THE HOST STATUS TABLE
IATCHK	AGE I'M ALIVE TABLE ENTRIES.
IATINI	INITIALIZE THE I'M ALIVE TABLE.
IATTBL	TABLE MANAGEMENT FUNCTIONS FOR THE I'M ALIVE TABLE.
IMALIV	PROCESS I'M ALIVE MESSAGE.
INICHK	CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.

NTM/MPU Module List

Module Name	Purpose
INITAK	BUILD AND SEND AN UNSOLICITED INITIATION ACCEPT MESSAGE.
INITAP	INITIATE THE APPLICATION PROCESS.
INITST	INITIAL START-UP PROCEDURE.
KIDST	CHECK IF ALL CHILD APS ARE DEAD.
LGMESG	SEND A MESSAGE TO LOGTASK BASED ON LOGGING SELECTION.
LISTPR	SEND LIST OF ACTIVE AP'S ON THIS APC TO THE MONITOR AP.
LSTTBL	TABLE MANAGEMENT FUNCTIONS FOR THE LINK STATUS TABLE.
MAPHST	MAP TO THE HOST TABLES.
MNGMSG	MANAGE MESSSAGE.
MNGPRC	MANAGE PROCESS.
MPRINI	INITILIAZE THE MESSAGE PAIR TABLE.
MPRTBL	TABLE MANAGEMENT FUNCTION FOR THE MESSAGE PAIR TABLE.
MPUGEN	PURPOSE NOT KNOWN - ACTIVE CODE.
MPUINF	SUPPLY MPU INFORMATION TO MESSAGE HEADER.
MPUINI	MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.
OFFCLQ	HANDLE MESSAGES FOR OFF CLUSTER.
OUTGDM	PURPOSE NOT KNOWN - STUBBED OUT.

NTM/MPU Module List

Module Name	Purpose
PADZER	CONVERT BINARY FIELD TO A CHARACTER FIELD AND PAD WITH ZEROS.
PAIRCK	CHECK MESSAGE PAIR TABLE FOR TIMED OUT MESSAGES.
PFINIT	PERFORM AP INITIATION.
POSAUT	CHECK IF AUTH RESTRICTION ON THE DEST AP.
PRCONC	PROCESS MESSAGES FROM ON THE CLUSTER.
PRGDAK	PURPOSE NOT KNOWN - STUBBED OUT.
PRINIT	PROCESS AP INITIATION MESSAGE.
PRINPT	PROCESS CLUSTER INPUT.
QWTINI	WRITE INIT MESSAGES THAT CANNOT BE HANDLED NOW TO A WAIT QUEUE
RANDIN	PROVIDE A RANDOM NUMBER FOR THE NTM TABLE ROUTINES.
RMVAST	REMOVE ASTERIKS FROM MESSAGE HEADER.
RMVPR	SEARCH FOR MATCH IN MESSAGE PAIR TABLE THEN REMOVE IT.
RTESND	ROUTE AND SEND A MESSAGE.
SAVEQS	PURPOSE NOT KNOWN - STUBBED OUT.
SDKIDS	SEND SHUTDOWN MESSAGES TO CHILD APS.
SDMODE	SHUTDOWN MODE PROCESSING.
SDPEND	PROCESS SHUT DOWN PENDING MSG ON UI APC.
SENDAP	HANDLE MESSAGES FOR APS ON CLUSTER.

NTM/MPU Module List

Module Name	Purpose
SFTSD	SEND SOFT SHUT DOWN MESSAGE TO AP.
SHTAPC	SHUTDOWN THE AP CLUSTER.
SHUTAP	PURPOSE NOT KNOWN - STUBBED OUT.
SNDCAN	SEND CANNED MESSAGE TO AP.
SNDCLN	SEND CLEANUP MESSAGE TO CHILD AP.
SNDCSM	SEND CHILD STATUS MESSAGE TO PARENT AP.
SNDMON	SEND MONITOR A STATUS MESSAGE VIA ITS APC.
SNDMTR	SEND LOCAL MONITOR A STATUS MESSAGE DIRECTLY WITH LOGGING.
SNDSAP	SEND MESSAGE TO SOURCE AP.
SNDSTE	SEND SYSTEM STATE MESSAGE TO ALIVE AP.
STRAPC	START UP THE AP CLUSTER.
SUPDEF	SUPPLY SYSTEM DEFAULTS.
SYSCOM	PROCESS SYSTEM COMMANDS.
TABPRC	PROCESS TABLE STATUS MESSAGE FROM MONITOR.
TIMCHK	TIME CHECKER.
TRMAPC	TERMINATE THE AP CLUSTER.
VIAOWN	SEND MESSAGE VIA OWN APC INPUT MAILBOX.
VMSGCT	VERIFY MESSAGE CATEGORY.
VYOFFC	VERIFY MESSAGES FROM OFF THE CLUSTER.
WRITPR	WRITE PROCESS.

NTM/MPU Module List

Module Name	Purpose
WTINIT	CHECK WAIT-FOR-INIT QUEUE FOR INIT MESSAGES FOR A GIVEN AP.

3.10.3 External Routines List

The following is a list of all routines or functions not documented here that are called by modules that are documented here. The first caller, in alphabetical order, is listed as well. The specification in which any module is documented may be found in the Module Documentation Index (Document Number CM 620100001). See section 3.10.6 for a list of the modules that call each of these external routines.

NTM/MPU External Routines List

Module Name	First User
ASCTIM	LGMESG
CNLTIM	FSTART
CRTMBX	INITST
DELMBX	TRMAPC
ENDRUN	MPUINI
ERRPRO	SNDMTR
GETMSG	FSTART
GETTIM	PAIRCK
IISSYS	MPUGEN
ITMADR	MAPHST
MTRGEN	MPUGEN
RCVMSG	PRINPT
RELEVB	SFTSD
SETTIM	PRINPT
SNDMSG	SNDCAN
SYS$CREPRC	CRTPRC
SYS$DELPRC	DELPRC
SYS$GETJPI	GETNAM
SYS$MGBLSC	MAPHST
SYS$TRNLOG	CRTPRC
WAIT02	FSTART
WAIT03	PRINPT

3.10.4 Include File List

The following is a list of all include files called in by modules being documented here. Each include file has a unique name regardless of the language being used. The purpose of each include file is listed as well. A more complete description of each include file is given in section 3.10.9. The purpose listed is the one that is in the source code of the include file.

A purpose of "**** PURPOSE NOT FOUND BY STRIPPER ****" indicates that a purpose statement was not written into the include file itself. The most common reason for this is that the include file comes from system libraries that were not developed by the project, such as 'C' libraries that are provided with the 'C' compiler.

See section 3.10.6 for a set of lists which show all the modules which call in each of these include files.

NTM/MPU Include File List

File Name	Purpose
AAMSG	28 JAN 84 : CHANGES FOR LONGER AP NAME
ACTBUF	INPUT DEFINITIONS FOR TABLE ROUTINES.
APCBUF	SPACES OR 0, EXCEPT FOR RSTAT WHICH IS INITALIZED
APDFLG	INDICATES IF ALL APS ON AP CLUSTER ARE DEAD.
APIBUF	SPACES OR 0.
APOBUF	AP OPERATING INFO RECORD.
APSBUF	THE AP STATUS TABLE ..... APC GLOBAL.
APTBUF	AP CHAR TABLE RECORD BUFFER.
BADINI	MODIFIED 1/30/84 FOR EXPANDED AP NAME
BASYSG	**** PURPOSE NOT FOUND BY STRIPPER ****
CANDEF	DEFINITIONS OF DATA PORTION OF CANNED MESSAGES.
CANMSG	CANNED FORMAT FOR MESSAGE.
CATBUF	THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
CHDSTM	28 JAN 84 : CHANGES FOR LONGER AP NAME
CHKSTS	CHKSTS.INC -- CHECK STATUS
CLDBUF	SPACES OR 0.
CLNUPM	MODIFIED 1/30/84 FOR EXPANDED AP NAME
CLOSED	********** -
CLQINI	MODIFIED 10/08/84 ADDED SUPPORT FOR IBM NODE BCS APM
CRTPRD	THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.
DELPRD	**** PURPOSE NOT FOUND BY STRIPPER ****
DLVEVB	EVENT BLOCK DEFINITIONS FOR DELIVERING A MESSAGE.
DLVMBX	28 JAN 84 : CHANGES FOR LONGER AP NAME
DLVQFD	********** -
DLVQFI	**********
DLVQST	********** * -
DWTQST	**********
ERRPRO	PROCESS ERROR INCLUDE FILE
FILERR	THE NTM QUEUE ERROR FILE.
GDARGS	**********
GDDATA	**********
HNRTMG	WRITTEN 11/2/83
HSTGLE	THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
IATBUF	THE AP STATUS TABLE ..... APC GLOBAL.

NTM/MPU Include File List

File Name	Purpose
INIDAT	FORMAT FOR INITIAL APC DATA.
INPEVB	MPU'S MAIN PROCESSING EVENT BLOCKS--- ONE FOR THE APC HOT
LGMSG	*
LOGSEL	STRUCTURE FOR SELECTIVE LOGGING INFORMATION.. KEPT IN GLOBAL.
MBXCHE	MODIFIED 1/30/84 FOR EXPANDED AP NAME
MBXNME	APC INPUT MAILBOX NAME FORMAT.
MPRBUF	MESSAGE-PAIR-TABLE IS AN MPU LOCAL TABLE.
NTMMSG	PURPOSE.
OPENDL	********** *** -
OPIINI	ADDED SUPPORT FOR IBM APC NAMES APM
OPQINI	MODIFIED 10/08/84 MODIFIED FOR IBM SUPPORT APM
POPTAB	**** PURPOSE NOT FOUND BY STRIPPER ****
PSSAPC	**********
QMSG	**********
RDWTIQ	ADDED SUPPORTFOR IBM APC NAMES APM
REWINI	WAIT-INIT QUEUE FILE
SACANM	MODIFIED 1/30/84 FOR EXPANDED AP NAME
SDDEF	INDICATES THE TYPE OF SHUTDOWN THE APC IS IN.
SDKIDM	28 jan 84 : changes for longer ap name
SDMNDT	PURPOSE.
SDSPDT	PURPOSE.
SFTSDM	MODIFIED 1/30/84 FOR EXPANDED AP NAME
SMCANM	CANNED FORMAT FOR MESSAGE SENT OUT IN SNDMON.
SSTEMG	REWRITTEN 11/21/83
STEVB	START UP DEFINITIONS.
SYSERR	SYSTEM ERROR CODE DEFINITIONS.
SYSTAT	SYSTEM ERROR CODE DEFINITIONS.
TABDEF	INPUT DEFINITIONS FOR TABLE ROUTINES.
TBLACT	PURPOSE.
TBLAPC	THIS IS THE APC STATUS TABLE.... A HOST GLOBAL TABLE.
TBLAPI	THE AP-INFORMATION-TABLE; APC GLOBAL; USED FOR ROUTING.
TBLAPO	AP OPERATING INFORMATION TABLE IS MPU LOCAL; OVERFLOW SHARED.
TBLAPS	IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.

NTM/MPU Include File List

File Name	Purpose
TBLAPT	THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
TBLAUT	THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
TBLCAT	FORMAT FOR INITIAL APC DATA.
TBLCLD	THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
TBLDEF	**********
TBLDIR	THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.
TBLGD	THE GUARANTEED DELIVERY TABLE IN AN APC GLOBAL TABLE.
TBLHST	THIS IS THE APC STATUS TABLE.... A HOST GLOBAL TABLE.
TBLIAT	IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLLOG	**** PURPOSE NOT FOUND BY STRIPPER ****
TBLLST	THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.
TBLMPR	MESSAGE-PAIR-TABLE IS AN MPU LOCAL TABLE.
TOMSG	MODIFIED 1/30/84 FOR EXPANDED AP NAME
UNINAK	MODIFIED 2/4/84 FOR EXPANDED AP NAME
WAITDE	SPACES OR 0.
WAITON	**********
WRITED	********** -
WRTINI	MODIFIED 10/08/84 MODIFIED FOR IBM SUPPORT BCS APM
WRTMSG	**********
WTINIQ	MODIFIED 10/08/84 ADD SUPPORT FOR IBM IISS NODE BCS APM
WTIQFD	MODIFIED 10/08/84 ADDED SUPPORT FOR IBM NODE BCS APM
WTIQST	MODIFIED 10/08/84 ADDED SUPPORT FOR IBM NODE BCS APM
WTMSGE	**** PURPOSE NOT FOUND BY STRIPPER ****

3.10.5 Where Include File Used List

The following lists each include file from 3.10.4 and all the modules documented in this specification which include them. The purpose of each module is listed as well.

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
AAMSG		
	LISTPR	SEND LIST OF ACTIVE AP'S ON THIS APC TO THE MONITOR AP.
ACTBUF		
	POSAUT	CHECK IF AUTH RESTRICTION ON THE DEST AP.
APCBUF		
	DETCOM	DETERMINE CORRECT COMM AP.
	HSTNRQ	HOST NAME REQUEST PROCESSING.
	OFFCLQ	HANDLE MESSAGES FOR OFF CLUSTER.
	RMVAST	REMOVE ASTERIKS FROM MESSAGE HEADER.
	RTESND	ROUTE AND SEND A MESSAGE.
	TIMCHK	TIME CHECKER.
APDFLG		
	ALDEAD	CHECK IF ALL APS ON APC ARE DEAD
	APDEAD	PROCESS AP DYING MESSAGE
	APSTAT	PROCESS AP STATUS MESSAGES.
	CHDSTM	PROCESS CHILD STATUS MESSAGE.
	CNCLSD	PROCESS CANCEL SHUT DOWN MESSAGE ON UI APC.
	DELCLD	DELETE CHILD ENTRY FROM CHILD TABLE.
	DLVMSG	DELIVER MESSAGE TO THE AP.
	EXCMPU	EXECUTE MESSAGE PROCESSING UNIT.
	GDMSGS	PURPOSE NOT KNOWN - ACTIVE CODE.
	IMALIV	PROCESS I'M ALIVE MESSAGE.
	INICHK	CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
	INITAP	INITIATE THE APPLICATION PROCESS.
	MNGMSG	MANAGE MESSSAGE.

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
	MNGPRC	MANAGE PROCESS.
	OFFCLQ	HANDLE MESSAGES FOR OFF CLUSTER.
	PFINIT	PERFORM AP INITIATION.
	PRCONC	PROCESS MESSAGES FROM ON THE CLUSTER.
	PRINIT	PROCESS AP INITIATION MESSAGE.
	PRINPT	PROCESS CLUSTER INPUT.
	RTESND	ROUTE AND SEND A MESSAGE.
	SDMODE	SHUTDOWN MODE PROCESSING.
	SDPEND	PROCESS SHUT DOWN PENDING MSG ON UI APC.
	SENDAP	HANDLE MESSAGES FOR APS ON CLUSTER.
	STRAPC	START UP THE AP CLUSTER.
	SYSCOM	PROCESS SYSTEM COMMANDS.
	TIMCHK	TIME CHECKER.
	WTINIT	CHECK WAIT-FOR-INIT QUEUE FOR INIT MESSAGES FOR A GIVEN AP.
APIBUF		
	HSTNRQ	HOST NAME REQUEST PROCESSING.
	IMALIV	PROCESS I'M ALIVE MESSAGE.
	MPUINF	SUPPLY MPU INFORMATION TO MESSAGE HEADER.
	PRCONC	PROCESS MESSAGES FROM ON THE CLUSTER.
APOBUF		
	ALDEAD	CHECK IF ALL APS ON APC ARE DEAD
	APDEAD	PROCESS AP DYING MESSAGE
	IATCHK	AGE I'M ALIVE TABLE ENTRIES.
	IMALIV	PROCESS I'M ALIVE MESSAGE.
	INITAP	INITIATE THE APPLICATION PROCESS.
	PFINIT	PERFORM AP INITIATION.
	PRINIT	PROCESS AP INITIATION MESSAGE.
	SHTAPC	SHUTDOWN THE AP CLUSTER.

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
APSBUF		
	APDEAD	PROCESS AP DYING MESSAGE
	APSTBL	TABLE MANAGEMENT FUNCTIONS AP STATUS TABLE.
	CHDPRC	CHILD TABLE PROCESSING.
	CHDSTM	PROCESS CHILD STATUS MESSAGE.
	CLDCHK	CHECK CHILD TABLE FOR RESERVED ENTRIES.
	CLNUP	CLEAN UP THE AP STATUS ENTRY AND CHILD TABLE.
	CNCLSD	PROCESS CANCEL SHUT DOWN MESSAGE ON UI APC.
	DELCLD	DELETE CHILD ENTRY FROM CHILD TABLE.
	DLVMSG	DELIVER MESSAGE TO THE AP.
	IATCHK	AGE I'M ALIVE TABLE ENTRIES.
	IMALIV	PROCESS I'M ALIVE MESSAGE.
	INITAP	INITIATE THE APPLICATION PROCESS.
	LISTPR	SEND LIST OF ACTIVE AP'S ON THIS APC TO THE MONITOR AP.
	MPUINF	SUPPLY MPU INFORMATION TO MESSAGE HEADER.
	PFINIT	PERFORM AP INITIATION.
	PRCONC	PROCESS MESSAGES FROM ON THE CLUSTER.
	PRINIT	PROCESS AP INITIATION MESSAGE.
	SDPEND	PROCESS SHUT DOWN PENDING MSG ON UI APC.
	SENDAP	HANDLE MESSAGES FOR APS ON CLUSTER.
	SHTAPC	SHUTDOWN THE AP CLUSTER.
	SNDCSM	SEND CHILD STATUS MESSAGE TO PARENT AP.
	SNDSTE	SEND SYSTEM STATE MESSAGE TO ALIVE AP.
	TIMCHK	TIME CHECKER.
APTBUF		
	CHDSTM	PROCESS CHILD STATUS MESSAGE.
	DELCLD	DELETE CHILD ENTRY FROM CHILD TABLE.

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
	LISTPR	SEND LIST OF ACTIVE AP'S ON THIS APC TO THE MONITOR AP.
	MPUINF	SUPPLY MPU INFORMATION TO MESSAGE HEADER.
	PFINIT	PERFORM AP INITIATION.
	PRINIT	PROCESS AP INITIATION MESSAGE.
	SENDAP	HANDLE MESSAGES FOR APS ON CLUSTER.
	SFTSD	SEND SOFT SHUT DOWN MESSAGE TO AP.
	SHTAPC	SHUTDOWN THE AP CLUSTER.
	SNDCAN	SEND CANNED MESSAGE TO AP.
	SNDSAP	SEND MESSAGE TO SOURCE AP.
	SNDSTE	SEND SYSTEM STATE MESSAGE TO ALIVE AP.
	WRITPR	WRITE PROCESS.
BADINI		
	IATCHK	AGE I'M ALIVE TABLE ENTRIES.
	INITAP	INITIATE THE APPLICATION PROCESS.
BASYSG		
		SUBROUTINE USED TO REPLACE OR MODIFY THE IISS SYSGEN DATA
	MPUGEN	PURPOSE NOT KNOWN - ACTIVE CODE.
CANDEF		
	CHDPRC	CHILD TABLE PROCESSING.
	CHDSTM	PROCESS CHILD STATUS MESSAGE.
	CLDCHK	CHECK CHILD TABLE FOR RESERVED ENTRIES.
	CLNUP	CLEAN UP THE AP STATUS ENTRY AND CHILD TABLE.
	DELCLD	DELETE CHILD ENTRY FROM CHILD TABLE.
	DLVMSG	DELIVER MESSAGE TO THE AP.
	IATCHK	AGE I'M ALIVE TABLE ENTRIES.

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
	IMALIV	PROCESS I'M ALIVE MESSAGE.
	KIDST	CHECK IF ALL CHILD APS ARE DEAD.
	OFFCLQ	HANDLE MESSAGES FOR OFF CLUSTER.
	PFINIT	PERFORM AP INITIATION.
	PRINIT	PROCESS AP INITIATION MESSAGE.
	RTESND	ROUTE AND SEND A MESSAGE.
	SDKIDS	SEND SHUTDOWN MESSAGES TO CHILD APS.
	SHTAPC	SHUTDOWN THE AP CLUSTER.
CANMSG		
	APDEAD	PROCESS AP DYING MESSAGE
	CHDPRC	CHILD TABLE PROCESSING.
	CHDSTM	PROCESS CHILD STATUS MESSAGE.
	CLDCHK	CHECK CHILD TABLE FOR RESERVED ENTRIES.
	CLNUP	CLEAN UP THE AP STATUS ENTRY AND CHILD TABLE.
	DELCLD	DELETE CHILD ENTRY FROM CHILD TABLE.
	DLVMSG	DELIVER MESSAGE TO THE AP.
	GDMSGS	PURPOSE NOT KNOWN - ACTIVE CODE.
	IATCHK	AGE I'M ALIVE TABLE ENTRIES.
	IMALIV	PROCESS I'M ALIVE MESSAGE.
	KIDST	CHECK IF ALL CHILD APS ARE DEAD.
	OFFCLQ	HANDLE MESSAGES FOR OFF CLUSTER.
	PFINIT	PERFORM AP INITIATION.
	PRINIT	PROCESS AP INITIATION MESSAGE.
	RTESND	ROUTE AND SEND A MESSAGE.
	SDKIDS	SEND SHUTDOWN MESSAGES TO CHILD APS.
	SHTAPC	SHUTDOWN THE AP CLUSTER.
	SNDCAN	SEND CANNED MESSAGE TO AP.
CATBUF		
	MPUINF	SUPPLY MPU INFORMATION TO MESSAGE HEADER.

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
CHDSTM		
	SNDCSM	SEND CHILD STATUS MESSAGE TO PARENT AP.
CHKSTS		
	INITAK	BUILD AND SEND AN UNSOLICITED INITIATION ACCEPT MESSAGE.
	OFFCLQ	HANDLE MESSAGES FOR OFF CLUSTER.
	PRINPT	PROCESS CLUSTER INPUT.
	SDKIDS	SEND SHUTDOWN MESSAGES TO CHILD APS.
	SENDAP	HANDLE MESSAGES FOR APS ON CLUSTER.
	SFTSD	SEND SOFT SHUT DOWN MESSAGE TO AP.
	SNDCAN	SEND CANNED MESSAGE TO AP.
	SNDCLN	SEND CLEANUP MESSAGE TO CHILD AP.
	SNDCSM	SEND CHILD STATUS MESSAGE TO PARENT AP.
	SNDMON	SEND MONITOR A STATUS MESSAGE VIA ITS APC.
	SNDMTR	SEND LOCAL MONITOR A STATUS MESSAGE DIRECTLY WITH LOGGING.
	SNDSAP	SEND MESSAGE TO SOURCE AP.
	SNDSTE	SEND SYSTEM STATE MESSAGE TO ALIVE AP.
	TRMAPC	TERMINATE THE AP CLUSTER.
	VIAOWN	SEND MESSAGE VIA OWN APC INPUT MAILBOX.
	WRITPR	WRITE PROCESS.
CLDBUF		
	CHDPRC	CHILD TABLE PROCESSING.
	CHDSTM	PROCESS CHILD STATUS MESSAGE.
	CLDCHK	CHECK CHILD TABLE FOR RESERVED ENTRIES.
	CLDTBL	TABLE MANAGEMENT FUNCTIONS FOR THE CHILD TABLE.
	DELCLD	DELETE CHILD ENTRY FROM CHILD TABLE.

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
	KIDST	CHECK IF ALL CHILD APS ARE DEAD.
	SDKIDS	SEND SHUTDOWN MESSAGES TO CHILD APS.
CLNUPM		
	SNDCLN	SEND CLEANUP MESSAGE TO CHILD AP.
CLOSED		
	DLVQUE	QUEUE MESSAGES TO ON APC AP'S IN DELIVER MESSAGE.
CLQINI		
	INICHK	CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
	QWTINI	WRITE INIT MESSAGES THAT CANNOT BE HANDLED NOW TO A WAIT QUEUE
	WTINIT	CHECK WAIT-FOR-INIT QUEUE FOR INIT MESSAGES FOR A GIVEN AP.
CRTPRD		
	CRTPRC	CREATE PROCESSES (DETACHED) ON THE VAX.
DELPRD		
	DELPRC	DELETE PROCESSES ON THE VAX.

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
DLVEVB		
	INITAK	BUILD AND SEND AN UNSOLICITED INITIATION ACCEPT MESSAGE.
	LGMESG	SEND A MESSAGE TO LOGTASK BASED ON LOGGING SELECTION.
	OFFCLQ	HANDLE MESSAGES FOR OFF CLUSTER.
	SENDAP	HANDLE MESSAGES FOR APS ON CLUSTER.
	SFTSD	SEND SOFT SHUT DOWN MESSAGE TO AP.
	SNDCAN	SEND CANNED MESSAGE TO AP.
	SNDCLN	SEND CLEANUP MESSAGE TO CHILD AP.
	SNDCSM	SEND CHILD STATUS MESSAGE TO PARENT AP.
	SNDMON	SEND MONITOR A STATUS MESSAGE VIA ITS APC.
	SNDMTR	SEND LOCAL MONITOR A STATUS MESSAGE DIRECTLY WITH LOGGING.
	SNDSAP	SEND MESSAGE TO SOURCE AP.
	SNDSTE	SEND SYSTEM STATE MESSAGE TO ALIVE AP.
	VIAOWN	SEND MESSAGE VIA OWN APC INPUT MAILBOX.
	WRITPR	WRITE PROCESS.
DLVMBX		
	OFFCLQ	HANDLE MESSAGES FOR OFF CLUSTER.
	SENDAP	HANDLE MESSAGES FOR APS ON CLUSTER.
	SFTSD	SEND SOFT SHUT DOWN MESSAGE TO AP.
	SNDCAN	SEND CANNED MESSAGE TO AP.
	SNDCLN	SEND CLEANUP MESSAGE TO CHILD AP.
	SNDMTR	SEND LOCAL MONITOR A STATUS MESSAGE DIRECTLY WITH LOGGING.
	SNDSAP	SEND MESSAGE TO SOURCE AP.
	SNDSTE	SEND SYSTEM STATE MESSAGE TO ALIVE AP.
	WRITPR	WRITE PROCESS.

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
DLVQFD		
	DLVQUE	QUEUE MESSAGES TO ON APC AP'S IN DELIVER MESSAGE.
DLVQFI		
	DLVQUE	QUEUE MESSAGES TO ON APC AP'S IN DELIVER MESSAGE.
DLVQST		
	DLVQUE	QUEUE MESSAGES TO ON APC AP'S IN DELIVER MESSAGE.
DWTQST		
	INITAP	INITIATE THE APPLICATION PROCESS.
ERRPRO		
	DLVMSG	DELIVER MESSAGE TO THE AP.
	IATTBL	TABLE MANAGEMENT FUNCTIONS FOR THE I'M ALIVE TABLE.
	SNDMON	SEND MONITOR A STATUS MESSAGE VIA ITS APC.
	SNDMTR	SEND LOCAL MONITOR A STATUS MESSAGE DIRECTLY WITH LOGGING.

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
FILERR		
	APOTBL	TABLE MANAGEMENT FUNCTION FOR THE AP OPERATING TABLE.
	APSTBL	TABLE MANAGEMENT FUNCTIONS AP STATUS TABLE.
	CLDTBL	TABLE MANAGEMENT FUNCTIONS FOR THE CHILD TABLE.
	EXCMPU	EXECUTE MESSAGE PROCESSING UNIT.
	GDMSGS	PURPOSE NOT KNOWN - ACTIVE CODE.
	GRDTBL	TABLE MANAGEMENT FUNCTIONS FOR THE GUARANTEED DELIVERY TABLE.
	IATTBL	TABLE MANAGEMENT FUNCTIONS FOR THE I'M ALIVE TABLE.
	MPRTBL	TABLE MANAGEMENT FUNCTION FOR THE MESSAGE PAIR TABLE.
	OFFCLQ	HANDLE MESSAGES FOR OFF CLUSTER.
	SENDAP	HANDLE MESSAGES FOR APS ON CLUSTER.
GDARGS		
	MNGMSG	MANAGE MESSSAGE.
	OFFCLQ	HANDLE MESSAGES FOR OFF CLUSTER.
	PRCONC	PROCESS MESSAGES FROM ON THE CLUSTER.
	SENDAP	HANDLE MESSAGES FOR APS ON CLUSTER.
	STRAPC	START UP THE AP CLUSTER.
	SYSCOM	PROCESS SYSTEM COMMANDS.
GDDATA		
	GDMSGS	PURPOSE NOT KNOWN - ACTIVE CODE.

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
HNRTMG		
	HSTNRQ	HOST NAME REQUEST PROCESSING.
HSTGLE		
	MAPHST	MAP TO THE HOST TABLES.
	MPUINI	MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.
IATBUF		
	IATCHK	AGE I'M ALIVE TABLE ENTRIES.
	IMALIV	PROCESS I'M ALIVE MESSAGE.
	INITAP	INITIATE THE APPLICATION PROCESS.
INIDAT		
	ADDPR	ADD ENTRY TO MESSAGE PAIR TABLE.
	ALDEAD	CHECK IF ALL APS ON APC ARE DEAD
	APDEAD	PROCESS AP DYING MESSAGE
	APSTAT	PROCESS AP STATUS MESSAGES.
	CHDPRC	CHILD TABLE PROCESSING.
	CHDSTM	PROCESS CHILD STATUS MESSAGE.
	CLDCHK	CHECK CHILD TABLE FOR RESERVED ENTRIES.
	CLNUP	CLEAN UP THE AP STATUS ENTRY AND CHILD TABLE.
	CMPHDR	COMPLETE MESSAGE HEADER.
	CNCLSD	PROCESS CANCEL SHUT DOWN MESSAGE ON UI APC.
	DELCLD	DELETE CHILD ENTRY FROM CHILD TABLE.

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
	DETCOM	DETERMINE CORRECT COMM AP.
	DLVMSG	DELIVER MESSAGE TO THE AP.
	DLVQUE	QUEUE MESSAGES TO ON APC AP'S IN DELIVER MESSAGE.
	EXCMPU	EXECUTE MESSAGE PROCESSING UNIT.
	FSTART	FINAL START-UP PROCEDURE.
	GDMSGS	PURPOSE NOT KNOWN - ACTIVE CODE.
	GENSER	GENERATE MESSAGE SERIAL NUMBER.
	HSTNRQ	HOST NAME REQUEST PROCESSING.
	IATCHK	AGE I'M ALIVE TABLE ENTRIES.
	IMALIV	PROCESS I'M ALIVE MESSAGE.
	INICHK	CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
	INITAK	BUILD AND SEND AN UNSOLICITED INITIATION ACCEPT MESSAGE.
	INITAP	INITIATE THE APPLICATION PROCESS.
	INITST	INITIAL START-UP PROCEDURE.
	KIDST	CHECK IF ALL CHILD APS ARE DEAD.
	LGMESG	SEND A MESSAGE TO LOGTASK BASED ON LOGGING SELECTION.
	LISTPR	SEND LIST OF ACTIVE AP'S ON THIS APC TO THE MONITOR AP.
	MNGMSG	MANAGE MESSSAGE.
	MNGPRC	MANAGE PROCESS.
	MPUINF	SUPPLY MPU INFORMATION TO MESSAGE HEADER.
	MPUINI	MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.
	OFFCLQ	HANDLE MESSAGES FOR OFF CLUSTER.
	OUTGDM	PURPOSE NOT KNOWN - STUBBED OUT.
	PAIRCK	CHECK MESSAGE PAIR TABLE FOR TIMED OUT MESSAGES.
	PFINIT	PERFORM AP INITIATION.
	POSAUT	CHECK IF AUTH RESTRICTION ON THE DEST AP.
	PRCONC	PROCESS MESSAGES FROM ON THE CLUSTER.
	PRINIT	PROCESS AP INITIATION MESSAGE.
	PRINPT	PROCESS CLUSTER INPUT.
	QWTINI	WRITE INIT MESSAGES THAT CANNOT BE HANDLED NOW TO A WAIT QUEUE
	RMVAST	REMOVE ASTERIKS FROM MESSAGE HEADER.

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
	RMVPR	SEARCH FOR MATCH IN MESSAGE PAIR TABLE THEN REMOVE IT.
	RTESND	ROUTE AND SEND A MESSAGE.
	SDKIDS	SEND SHUTDOWN MESSAGES TO CHILD APS.
	SDMODE	SHUTDOWN MODE PROCESSING.
	SDPEND	PROCESS SHUT DOWN PENDING MSG ON UI APC.
	SENDAP	HANDLE MESSAGES FOR APS ON CLUSTER.
	SFTSD	SEND SOFT SHUT DOWN MESSAGE TO AP.
	SHTAPC	SHUTDOWN THE AP CLUSTER.
	SNDCAN	SEND CANNED MESSAGE TO AP.
	SNDCLN	SEND CLEANUP MESSAGE TO CHILD AP.
	SNDCSM	SEND CHILD STATUS MESSAGE TO PARENT AP.
	SNDMON	SEND MONITOR A STATUS MESSAGE VIA ITS APC.
	SNDMTR	SEND LOCAL MONITOR A STATUS MESSAGE DIRECTLY WITH LOGGING.
	SNDSAP	SEND MESSAGE TO SOURCE AP.
	SNDSTE	SEND SYSTEM STATE MESSAGE TO ALIVE AP.
	STRAPC	START UP THE AP CLUSTER.
	SYSCOM	PROCESS SYSTEM COMMANDS.
	TABPRC	PROCESS TABLE STATUS MESSAGE FROM MONITOR.
	TIMCHK	TIME CHECKER.
	TRMAPC	TERMINATE THE AP CLUSTER.
	VIAOWN	SEND MESSAGE VIA OWN APC INPUT MAILBOX.
	VMSGCT	VERIFY MESSAGE CATEGORY.
	VYOFFC	VERIFY MESSAGES FROM OFF THE CLUSTER.
	WRITPR	WRITE PROCESS.
	WTINIT	CHECK WAIT-FOR-INIT QUEUE FOR INIT MESSAGES FOR A GIVEN AP.
INPEVB		
	EXCMPU	EXECUTE MESSAGE PROCESSING UNIT.
	FSTART	FINAL START-UP PROCEDURE.
	INITST	INITIAL START-UP PROCEDURE.
	PRINPT	PROCESS CLUSTER INPUT.
	STRAPC	START UP THE AP CLUSTER.
	TABPRC	PROCESS TABLE STATUS MESSAGE FROM MONITOR.
	TRMAPC	TERMINATE THE AP CLUSTER.

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
LGMSG		
	LGMESG	SEND A MESSAGE TO LOGTASK BASED ON LOGGING SELECTION.
LOGSEL		
	ADDPR	ADD ENTRY TO MESSAGE PAIR TABLE.
	ALDEAD	CHECK IF ALL APS ON APC ARE DEAD
	EXCMPU	EXECUTE MESSAGE PROCESSING UNIT.
	INITST	INITIAL START-UP PROCEDURE.
	LGMESG	SEND A MESSAGE TO LOGTASK BASED ON LOGGING SELECTION.
	MAPHST	MAP TO THE HOST TABLES.
	MNGMSG	MANAGE MESSSAGE.
	MPUINI	MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.
	PRCONC	PROCESS MESSAGES FROM ON THE CLUSTER.
	PRINPT	PROCESS CLUSTER INPUT.
	SNDMTR	SEND LOCAL MONITOR A STATUS MESSAGE DIRECTLY WITH LOGGING.
	STRAPC	START UP THE AP CLUSTER.
	TABPRC	PROCESS TABLE STATUS MESSAGE FROM MONITOR.
	TRMAPC	TERMINATE THE AP CLUSTER.
MBXCHE		
	SFTSD	SEND SOFT SHUT DOWN MESSAGE TO AP.
	SNDCAN	SEND CANNED MESSAGE TO AP.
	SNDSAP	SEND MESSAGE TO SOURCE AP.
	SNDSTE	SEND SYSTEM STATE MESSAGE TO ALIVE AP.
	WRITPR	WRITE PROCESS.

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
MBXNME		
	FSTART	FINAL START-UP PROCEDURE.
	INITAK	BUILD AND SEND AN UNSOLICITED INITIATION ACCEPT MESSAGE.
	INITST	INITIAL START-UP PROCEDURE.
	OFFCLQ	HANDLE MESSAGES FOR OFF CLUSTER.
	PRINPT	PROCESS CLUSTER INPUT.
	SENDAP	HANDLE MESSAGES FOR APS ON CLUSTER.
	SNDCAN	SEND CANNED MESSAGE TO AP.
	SNDCLN	SEND CLEANUP MESSAGE TO CHILD AP.
	SNDCSM	SEND CHILD STATUS MESSAGE TO PARENT AP.
	SNDMON	SEND MONITOR A STATUS MESSAGE VIA ITS APC.
	SNDSAP	SEND MESSAGE TO SOURCE AP.
	STRAPC	START UP THE AP CLUSTER.
	TABPRC	PROCESS TABLE STATUS MESSAGE FROM MONITOR.
	TRMAPC	TERMINATE THE AP CLUSTER.
	VIAOWN	SEND MESSAGE VIA OWN APC INPUT MAILBOX.
MPRBUF		
	ADDPR	ADD ENTRY TO MESSAGE PAIR TABLE.
	PAIRCK	CHECK MESSAGE PAIR TABLE FOR TIMED OUT MESSAGES.
	RMVPR	SEARCH FOR MATCH IN MESSAGE PAIR TABLE THEN REMOVE IT.
NTMMSG		
	ADDPR	ADD ENTRY TO MESSAGE PAIR TABLE.
	APDEAD	PROCESS AP DYING MESSAGE
	APSTAT	PROCESS AP STATUS MESSAGES.

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
	AUTMSG	AUTHORITY TABLE CHECK TO SEE IF MESSAGE CAN BE SENT.
	CHDPRC	CHILD TABLE PROCESSING.
	CHDSTM	PROCESS CHILD STATUS MESSAGE.
	CLNUP	CLEAN UP THE AP STATUS ENTRY AND CHILD TABLE.
	CMPHDR	COMPLETE MESSAGE HEADER.
	CNCLSD	PROCESS CANCEL SHUT DOWN MESSAGE ON UI APC.
	DELCLD	DELETE CHILD ENTRY FROM CHILD TABLE.
	DLVMSG	DELIVER MESSAGE TO THE AP.
	DLVQUE	QUEUE MESSAGES TO ON APC AP'S IN DELIVER MESSAGE.
	EXCMPU	EXECUTE MESSAGE PROCESSING UNIT.
	FSTART	FINAL START-UP PROCEDURE.
	GDMSGS	PURPOSE NOT KNOWN - ACTIVE CODE.
	HSTNRQ	HOST NAME REQUEST PROCESSING.
	IMALIV	PROCESS I'M ALIVE MESSAGE.
	INICHK	CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
	INITAK	BUILD AND SEND AN UNSOLICITED INITIATION ACCEPT MESSAGE.
	INITAP	INITIATE THE APPLICATION PROCESS.
	LGMESG	SEND A MESSAGE TO LOGTASK BASED ON LOGGING SELECTION.
	LISTPR	SEND LIST OF ACTIVE AP'S ON THIS APC TO THE MONITOR AP.
	MNGMSG	MANAGE MESSSAGE.
	MNGPRC	MANAGE PROCESS.
	MPUINF	SUPPLY MPU INFORMATION TO MESSAGE HEADER.
	OFFCLQ	HANDLE MESSAGES FOR OFF CLUSTER.
	PFINIT	PERFORM AP INITIATION.
	POSAUT	CHECK IF AUTH RESTRICTION ON THE DEST AP.
	PRCONC	PROCESS MESSAGES FROM ON THE CLUSTER.
	PRINIT	PROCESS AP INITIATION MESSAGE.
	PRINPT	PROCESS CLUSTER INPUT.
	QWTINI	WRITE INIT MESSAGES THAT CANNOT BE HANDLED NOW TO A WAIT QUEUE
	RMVAST	REMOVE ASTERIKS FROM MESSAGE HEADER.

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
	RMVPR	SEARCH FOR MATCH IN MESSAGE PAIR TABLE THEN REMOVE IT.
	RTESND	ROUTE AND SEND A MESSAGE.
	SDMODE	SHUTDOWN MODE PROCESSING.
	SDPEND	PROCESS SHUT DOWN PENDING MSG ON UI APC.
	SENDAP	HANDLE MESSAGES FOR APS ON CLUSTER.
	SHTAPC	SHUTDOWN THE AP CLUSTER.
	SHUTAP	PURPOSE NOT KNOWN - STUBBED OUT.
	SNDCLN	SEND CLEANUP MESSAGE TO CHILD AP.
	SNDSAP	SEND MESSAGE TO SOURCE AP.
	STRAPC	START UP THE AP CLUSTER.
	SUPDEF	SUPPLY SYSTEM DEFAULTS.
	SYSCOM	PROCESS SYSTEM COMMANDS.
	TABPRC	PROCESS TABLE STATUS MESSAGE FROM MONITOR.
	TIMCHK	TIME CHECKER.
	VIAOWN	SEND MESSAGE VIA OWN APC INPUT MAILBOX.
	VMSGCT	VERIFY MESSAGE CATEGORY.
	VYOFFC	VERIFY MESSAGES FROM OFF THE CLUSTER.
	WRITPR	WRITE PROCESS.
	WTINIT	CHECK WAIT-FOR-INIT QUEUE FOR INIT MESSAGES FOR A GIVEN AP.
OPENDL		
	DLVQUE	QUEUE MESSAGES TO ON APC AP'S IN DELIVER MESSAGE.
OPIINI		
	INICHK	CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
	WTINIT	CHECK WAIT-FOR-INIT QUEUE FOR INIT MESSAGES FOR A GIVEN AP.

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
OPQINI		
	QWTINI	WRITE INIT MESSAGES THAT CANNOT BE HANDLED NOW TO A WAIT QUEUE
POPTAB		
	TABPRC	PROCESS TABLE STATUS MESSAGE FROM MONITOR.
PSSAPC		
	IMALIV	PROCESS I'M ALIVE MESSAGE.
QMSG		
	IMALIV	PROCESS I'M ALIVE MESSAGE.
RDWTIQ		
	INICHK	CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
	WTINIT	CHECK WAIT-FOR-INIT QUEUE FOR INIT MESSAGES FOR A GIVEN AP.
REWINI		

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
	INICHK	CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
	WTINIT	CHECK WAIT-FOR-INIT QUEUE FOR INIT MESSAGES FOR A GIVEN AP.
SACANM		
	SENDAP	HANDLE MESSAGES FOR APS ON CLUSTER.
	SNDSAP	SEND MESSAGE TO SOURCE AP.
	WRITPR	WRITE PROCESS.
SDDEF		
	APDEAD	PROCESS AP DYING MESSAGE
	APSTAT	PROCESS AP STATUS MESSAGES.
	CHDSTM	PROCESS CHILD STATUS MESSAGE.
	CNCLSD	PROCESS CANCEL SHUT DOWN MESSAGE ON UI APC.
	DELCLD	DELETE CHILD ENTRY FROM CHILD TABLE.
	DLVMSG	DELIVER MESSAGE TO THE AP.
	EXCMPU	EXECUTE MESSAGE PROCESSING UNIT.
	GDMSGS	PURPOSE NOT KNOWN - ACTIVE CODE.
	IMALIV	PROCESS I'M ALIVE MESSAGE.
	INICHK	CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
	INITAP	INITIATE THE APPLICATION PROCESS.
	MNGMSG	MANAGE MESSSAGE.
	MNGPRC	MANAGE PROCESS.
	MPUINI	MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.
	OFFCLQ	HANDLE MESSAGES FOR OFF CLUSTER.
	PFINIT	PERFORM AP INITIATION.
	PRCONC	PROCESS MESSAGES FROM ON THE CLUSTER.
	PRINIT	PROCESS AP INITIATION MESSAGE.
	PRINPT	PROCESS CLUSTER INPUT.
	RTESND	ROUTE AND SEND A MESSAGE.

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
	SDMODE	SHUTDOWN MODE PROCESSING.
	SDPEND	PROCESS SHUT DOWN PENDING MSG ON UI APC.
	SENDAP	HANDLE MESSAGES FOR APS ON CLUSTER.
	SHTAPC	SHUTDOWN THE AP CLUSTER.
	STRAPC	START UP THE AP CLUSTER.
	SYSCOM	PROCESS SYSTEM COMMANDS.
	TIMCHK	TIME CHECKER.
	TRMAPC	TERMINATE THE AP CLUSTER.
	WTINIT	CHECK WAIT-FOR-INIT QUEUE FOR INIT MESSAGES FOR A GIVEN AP.
SDKIDM		
	SDKIDS	SEND SHUTDOWN MESSAGES TO CHILD APS.
SDMNDT		
	ADDPR	ADD ENTRY TO MESSAGE PAIR TABLE.
	ALDEAD	CHECK IF ALL APS ON APC ARE DEAD
	APDEAD	PROCESS AP DYING MESSAGE
	CHDPRC	CHILD TABLE PROCESSING.
	CHDSTM	PROCESS CHILD STATUS MESSAGE.
	CLDCHK	CHECK CHILD TABLE FOR RESERVED ENTRIES.
	CLNUP	CLEAN UP THE AP STATUS ENTRY AND CHILD TABLE.
	CMPHDR	COMPLETE MESSAGE HEADER.
	CNCLSD	PROCESS CANCEL SHUT DOWN MESSAGE ON UI APC.
	DELCLD	DELETE CHILD ENTRY FROM CHILD TABLE.
	DETCOM	DETERMINE CORRECT COMM AP.
	DLVMSG	DELIVER MESSAGE TO THE AP.
	EXCMPU	EXECUTE MESSAGE PROCESSING UNIT.
	FSTART	FINAL START-UP PROCEDURE.
	GDMSGS	PURPOSE NOT KNOWN - ACTIVE CODE.
	IATCHK	AGE I'M ALIVE TABLE ENTRIES.
	IMALIV	PROCESS I'M ALIVE MESSAGE.

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
	INICHK	CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
	INITAK	BUILD AND SEND AN UNSOLICITED INITIATION ACCEPT MESSAGE.
	INITAP	INITIATE THE APPLICATION PROCESS.
	INITST	INITIAL START-UP PROCEDURE.
	KIDST	CHECK IF ALL CHILD APS ARE DEAD.
	LGMESG	SEND A MESSAGE TO LOGTASK BASED ON LOGGING SELECTION.
	LISTPR	SEND LIST OF ACTIVE AP'S ON THIS APC TO THE MONITOR AP.
	MPUINF	SUPPLY MPU INFORMATION TO MESSAGE HEADER.
	MPUINI	MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.
	OFFCLQ	HANDLE MESSAGES FOR OFF CLUSTER.
	PAIRCK	CHECK MESSAGE PAIR TABLE FOR TIMED OUT MESSAGES.
	PFINIT	PERFORM AP INITIATION.
	POSAUT	CHECK IF AUTH RESTRICTION ON THE DEST AP.
	PRCONC	PROCESS MESSAGES FROM ON THE CLUSTER.
	PRINIT	PROCESS AP INITIATION MESSAGE.
	PRINPT	PROCESS CLUSTER INPUT.
	QWTINI	WRITE INIT MESSAGES THAT CANNOT BE HANDLED NOW TO A WAIT QUEUE
	RMVAST	REMOVE ASTERIKS FROM MESSAGE HEADER.
	RMVPR	SEARCH FOR MATCH IN MESSAGE PAIR TABLE THEN REMOVE IT.
	RTESND	ROUTE AND SEND A MESSAGE.
	SDKIDS	SEND SHUTDOWN MESSAGES TO CHILD APS.
	SDPEND	PROCESS SHUT DOWN PENDING MSG ON UI APC.
	SENDAP	HANDLE MESSAGES FOR APS ON CLUSTER.
	SFTSD	SEND SOFT SHUT DOWN MESSAGE TO AP.
	SHTAPC	SHUTDOWN THE AP CLUSTER.
	SNDCAN	SEND CANNED MESSAGE TO AP.
	SNDCLN	SEND CLEANUP MESSAGE TO CHILD AP.
	SNDCSM	SEND CHILD STATUS MESSAGE TO PARENT AP.
	SNDMON	SEND MONITOR A STATUS MESSAGE VIA ITS APC.
	SNDMTR	SEND LOCAL MONITOR A STATUS MESSAGE DIRECTLY WITH LOGGING.
	SNDSAP	SEND MESSAGE TO SOURCE AP.

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
	SNDSTE	SEND SYSTEM STATE MESSAGE TO ALIVE AP.
	STRAPC	START UP THE AP CLUSTER.
	TABPRC	PROCESS TABLE STATUS MESSAGE FROM MONITOR.
	TRMAPC	TERMINATE THE AP CLUSTER.
	VIAOWN	SEND MESSAGE VIA OWN APC INPUT MAILBOX.
	VMSGCT	VERIFY MESSAGE CATEGORY.
	VYOFFC	VERIFY MESSAGES FROM OFF THE CLUSTER.
	WRITPR	WRITE PROCESS.
	WTINIT	CHECK WAIT-FOR-INIT QUEUE FOR INIT MESSAGES FOR A GIVEN AP.
SDSPDT		
	ADDPR	ADD ENTRY TO MESSAGE PAIR TABLE.
	CHDPRC	CHILD TABLE PROCESSING.
	CMPHDR	COMPLETE MESSAGE HEADER.
	IMALIV	PROCESS I'M ALIVE MESSAGE.
	LGMESG	SEND A MESSAGE TO LOGTASK BASED ON LOGGING SELECTION.
	MPUINF	SUPPLY MPU INFORMATION TO MESSAGE HEADER.
	POSAUT	CHECK IF AUTH RESTRICTION ON THE DEST AP.
	PRCONC	PROCESS MESSAGES FROM ON THE CLUSTER.
	PRINIT	PROCESS AP INITIATION MESSAGE.
	SENDAP	HANDLE MESSAGES FOR APS ON CLUSTER.
	SNDSAP	SEND MESSAGE TO SOURCE AP.
	SNDSTE	SEND SYSTEM STATE MESSAGE TO ALIVE AP.
	VMSGCT	VERIFY MESSAGE CATEGORY.
	WRITPR	WRITE PROCESS.
SFTSDM		
	SFTSD	SEND SOFT SHUT DOWN MESSAGE TO AP.

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
SMCANM		
	SNDMON	SEND MONITOR A STATUS MESSAGE VIA ITS APC.
	SNDMTR	SEND LOCAL MONITOR A STATUS MESSAGE DIRECTLY WITH LOGGING.
SSTEMG		
	SNDSTE	SEND SYSTEM STATE MESSAGE TO ALIVE AP.
STEVB		
	FSTART	FINAL START-UP PROCEDURE.
	INITST	INITIAL START-UP PROCEDURE.
	PRINPT	PROCESS CLUSTER INPUT.
	TABPRC	PROCESS TABLE STATUS MESSAGE FROM MONITOR.
	TRMAPC	TERMINATE THE AP CLUSTER.
SYSERR		
	ACTINI	LOAD THE AUTHORITY CHECK TABLE FROM THE AUTHORITY CHECK FILE.
	ACTTBL	TABLE MANAGEMENT FUNCTIONS FOR THE AUTHORITY CHECK TABLE
	ADDPR	ADD ENTRY TO MESSAGE PAIR TABLE.
	ALDEAD	CHECK IF ALL APS ON APC ARE DEAD
	APCTBL	TABLE MANAGEMENT FUNCTIONS FOR THE AP CLUSTER STATUS TABLE.
	APDEAD	PROCESS AP DYING MESSAGE
	APIINI	INITIALIZE THE AP INFORMATION TABLE.
	APITBL	TABLE MANAGEMENT FUNCTIONS FOR THE AP ROUTING TABLE
	APOINI	INITIALIZE AP OPERATING TABLE.
	APOTBL	TABLE MANAGEMENT FUNCTION FOR THE AP OPERATING TABLE.

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
	APSINI	INITIALIZE THE AP STATUS TABLE.
	APSTBL	TABLE MANAGEMENT FUNCTIONS AP STATUS TABLE.
	APTINI	INITIALIZE THE AP CHARACTERISTICS TABLE.
	APTTBL	TABLE MANAGEMENT FUNCTIONS FOR THE AP CHARACTERISTIC TABLE.
	AUTTBL	TABLE MANAGEMENT FUNCTIONS FOR THE AUTHORITY CHECK TABLE.
	CATTBL	TABLE MANAGEMENT FUNCTIONS FOR THE MESSAGE CATEGORY TABLF.
	CHDPRC	CHILD TABLE PROCESSING.
	CHDSTM	PROCESS CHILD STATUS MESSAGE.
	CLDCHK	CHECK CHILD TABLE FOR RESERVED ENTRIES.
	CLDINI	INITIALIZE CHILD TABLE.
	CLDTBL	TABLE MANAGEMENT FUNCTIONS FOR THE CHILD TABLE.
	CMPHDR	COMPLETE MESSAGE HEADER.
	DETCOM	DETERMINE CORRECT COMM AP.
	DIRTBL	TABLE MANAGEMENT FUNCTIONS FOR THE DIRECTORY TABLE.
	DLVMSG	DELIVER MESSAGE TO THE AP.
	EXCMPU	EXECUTE MESSAGE PROCESSING UNIT.
	FSTART	FINAL START-UP PROCEDURE.
	GDMSGS	PURPOSE NOT KNOWN - ACTIVE CODE.
	GRDTBL	TABLE MANAGEMENT FUNCTIONS FOR THE GUARANTEED DELIVERY TABLE.
	HSTNRQ	HOST NAME REQUEST PROCESSING.
	HSTTBL	TABLE MANAGEMENT FUNCTIONS FOR THE HOST STATUS TABLE
	IATCHK	AGE I'M ALIVE TABLE ENTRIES.
	IATINI	INITIALIZE THE I'M ALIVE TABLE.
	IATTBL	TABLE MANAGEMENT FUNCTIONS FOR THE I'M ALIVE TABLE.
	IMALIV	PROCESS I'M ALIVE MESSAGE.
	INICHK	CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
	INITAK	BUILD AND SEND AN UNSOLICITED INITIATION ACCEPT MESSAGE.
	INITAP	INITIATE THE APPLICATION PROCESS.
	INITST	INITIAL START-UP PROCEDURE.

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
	KIDST	CHECK IF ALL CHILD APS ARE DEAD.
	LGMESG	SEND A MESSAGE TO LOGTASK BASED ON LOGGING SELECTION.
	LSTTBL	TABLE MANAGEMENT FUNCTIONS FOR THE LINK STATUS TABLE.
	MPRINI	INITILIAZE THE MESSAGE PAIR TABLE.
	MPRTBL	TABLE MANAGEMENT FUNCTION FOR THE MESSAGE PAIR TABLE.
	MPUINF	SUPPLY MPU INFORMATION TO MESSAGE HEADER.
	MPUINI	MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.
	OFFCLQ	HANDLE MESSAGES FOR OFF CLUSTER.
	PAIRCK	CHECK MESSAGE PAIR TABLE FOR TIMED OUT MESSAGES.
	PFINIT	PERFORM AP INITIATION.
	PRCONC	PROCESS MESSAGES FROM ON THE CLUSTER.
	PRINIT	PROCESS AP INITIATION MESSAGE.
	PRINPT	PROCESS CLUSTER INPUT.
	QWTINI	WRITE INIT MESSAGES THAT CANNOT BE HANDLED NOW TO A WAIT QUEUE
	RTESND	ROUTE AND SEND A MESSAGE.
	SDKIDS	SEND SHUTDOWN MESSAGES TO CHILD APS.
	SENDAP	HANDLE MESSAGES FOR APS ON CLUSTER.
	SFTSD	SEND SOFT SHUT DOWN MESSAGE TO AP.
	SHTAPC	SHUTDOWN THE AP CLUSTER.
	SNDCAN	SEND CANNED MESSAGE TO AP.
	SNDCLN	SEND CLEANUP MESSAGE TO CHILD AP.
	SNDCSM	SEND CHILD STATUS MESSAGE TO PARENT AP.
	SNDMON	SEND MONITOR A STATUS MESSAGE VIA ITS APC.
	SNDMTR	SEND LOCAL MONITOR A STATUS MESSAGE DIRECTLY WITH LOGGING.
	SNDSAP	SEND MESSAGE TO SOURCE AP.
	SNDSTE	SEND SYSTEM STATE MESSAGE TO ALIVE AP.
	STRAPC	START UP THE AP CLUSTER.
	TABPRC	PROCESS TABLE STATUS MESSAGE FROM MONITOR.
	TRMAPC	TERMINATE THE AP CLUSTER.
	VIAOWN	SEND MESSAGE VIA OWN APC INPUT MAILBOX.
	VMSGCT	VERIFY MESSAGE CATEGORY.
	VYOFFC	VERIFY MESSAGES FROM OFF THE CLUSTER.
	WRITPR	WRITE PROCESS.

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
	WTINIT	CHECK WAIT-FOR-INIT QUEUE FOR INIT MESSAGES FOR A GIVEN AP.
SYSTAT		
	IMALIV	PROCESS I'M ALIVE MESSAGE.
	SNDSTE	SEND SYSTEM STATE MESSAGE TO ALIVE AP.
TABDEF		
	ADDPR	ADD ENTRY TO MESSAGE PAIR TABLE.
	ALDEAD	CHECK IF ALL APS ON APC ARE DEAD
	APDEAD	PROCESS AP DYING MESSAGE
	CHDPRC	CHILD TABLE PROCESSING.
	CHDSTM	PROCESS CHILD STATUS MESSAGE.
	CLDCHK	CHECK CHILD TABLE FOR RESERVED ENTRIES.
	CLNUP	CLEAN UP THE AP STATUS ENTRY AND CHILD TABLE.
	CNCLSD	PROCESS CANCEL SHUT DOWN MESSAGE ON UI APC.
	DELCLD	DELETE CHILD ENTRY FROM CHILD TABLE.
	DETCOM	DETERMINE CORRECT COMM AP.
	DLVMSG	DELIVER MESSAGE TO THE AP.
	HSTNRQ	HOST NAME REQUEST PROCESSING.
	IATCHK	AGE I'M ALIVE TABLE ENTRIES.
	IMALIV	PROCESS I'M ALIVE MESSAGE.
	INITAP	INITIATE THE APPLICATION PROCESS.
	KIDST	CHECK IF ALL CHILD APS ARE DEAD.
	LISTPR	SEND LIST OF ACTIVE AP'S ON THIS APC TO THE MONITOR AP.
	MPUINF	SUPPLY MPU INFORMATION TO MESSAGE HEADER.
	OFFCLQ	HANDLE MESSAGES FOR OFF CLUSTER.
	PAIRCK	CHECK MESSAGE PAIR TABLE FOR TIMED OUT MESSAGES.
	PFINIT	PERFORM AP INITIATION.
	POSAUT	CHECK IF AUTH RESTRICTION ON THE DEST AP.

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
	PRCONC	PROCESS MESSAGES FROM ON THE CLUSTER.
	PRINIT	PROCESS AP INITIATION MESSAGE.
	RMVAST	REMOVE ASTERIKS FROM MESSAGE HEADER.
	RMVPR	SEARCH FOR MATCH IN MESSAGE PAIR TABLE THEN REMOVE IT.
	RTESND	ROUTE AND SEND A MESSAGE.
	SDKIDS	SEND SHUTDOWN MESSAGES TO CHILD APS.
	SDPEND	PROCESS SHUT DOWN PENDING MSG ON UI APC.
	SENDAP	HANDLE MESSAGES FOR APS ON CLUSTER.
	SFTSD	SEND SOFT SHUT DOWN MESSAGE TO AP.
	SHTAPC	SHUTDOWN THE AP CLUSTER.
	SNDCAN	SEND CANNED MESSAGE TO AP.
	SNDSAP	SEND MESSAGE TO SOURCE AP.
	SNDSTE	SEND SYSTEM STATE MESSAGE TO ALIVE AP.
	VMSGCT	VERIFY MESSAGE CATEGORY.
	WRITPR	WRITE PROCESS.
TBLACT		
	ACTINI	LOAD THE AUTHORITY CHECK TABLE FROM THE AUTHORITY CHECK FILE.
	ACTTBL	TABLE MANAGEMENT FUNCTIONS FOR THE AUTHORITY CHECK TABLE
	EXCMPU	EXECUTE MESSAGE PROCESSING UNIT.
	MNGMSG	MANAGE MESSSAGE.
	MPUINI	MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.
	POSAUT	CHECK IF AUTH RESTRICTION ON THE DEST AP.
	PRCONC	PROCESS MESSAGES FROM ON THE CLUSTER.
	PRINPT	PROCESS CLUSTER INPUT.
	STRAPC	START UP THE AP CLUSTER.
	TABPRC	PROCESS TABLE STATUS MESSAGE FROM MONITOR.
TBLAPC		

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
	APCTBL	TABLE MANAGEMENT FUNCTIONS FOR THE AP CLUSTER STATUS TABLE.
	APDEAD	PROCESS AP DYING MESSAGE
	APSTAT	PROCESS AP STATUS MESSAGES.
	CHDSTM	PROCESS CHILD STATUS MESSAGE.
	CNCLSD	PROCESS CANCEL SHUT DOWN MESSAGE ON UI APC.
	DELCLD	DELETE CHILD ENTRY FROM CHILD TABLE.
	DETCOM	DETERMINE CORRECT COMM AP.
	DLVMSG	DELIVER MESSAGE TO THE AP.
	EXCMPU	EXECUTE MESSAGE PROCESSING UNIT.
	GDMSGS	PURPOSE NOT KNOWN - ACTIVE CODE.
	HSTNRQ	HOST NAME REQUEST PROCESSING.
	IMALIV	PROCESS I'M ALIVE MESSAGE.
	INICHK	CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
	INITAP	INITIATE THE APPLICATION PROCESS.
	MAPHST	MAP TO THE HOST TABLES.
	MNGMSG	MANAGE MESSSAGE.
	MNGPRC	MANAGE PROCESS.
	MPUINI	MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.
	OFFCLQ	HANDLE MESSAGES FOR OFF CLUSTER.
	PFINIT	PERFORM AP INITIATION.
	PRCONC	PROCESS MESSAGES FROM ON THE CLUSTER.
	PRINIT	PROCESS AP INITIATION MESSAGE.
	PRINPT	PROCESS CLUSTER INPUT.
	RMVAST	REMOVE ASTERIKS FROM MESSAGE HEADER.
	RTESND	ROUTE AND SEND A MESSAGE.
	SDPEND	PROCESS SHUT DOWN PENDING MSG ON UI APC.
	SENDAP	HANDLE MESSAGES FOR APS ON CLUSTER.
	STRAPC	START UP THE AP CLUSTER.
	SYSCOM	PROCESS SYSTEM COMMANDS.
	TIMCHK	TIME CHECKER.
	WTINIT	CHECK WAIT-FOR-INIT QUEUE FOR INIT MESSAGES FOR A GIVEN AP.

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
TBLAPI		
	APDEAD	PROCESS AP DYING MESSAGE
	APIINI	INITIALIZE THE AP INFORMATION TABLE.
	APITBL	TABLE MANAGEMENT FUNCTIONS FOR THE AP ROUTING TABLE
	APSTAT	PROCESS AP STATUS MESSAGES.
	CHDSTM	PROCESS CHILD STATUS MESSAGE.
	CMPHDR	COMPLETE MESSAGE HEADER.
	CNCLSD	PROCESS CANCEL SHUT DOWN MESSAGE ON UI APC.
	DELCLD	DELETE CHILD ENTRY FROM CHILD TABLE.
	DLVMSG	DELIVER MESSAGE TO THE AP.
	EXCMPU	EXECUTE MESSAGE PROCESSING UNIT.
	GDMSGS	PURPOSE NOT KNOWN - ACTIVE CODE.
	HSTNRQ	HOST NAME REQUEST PROCESSING.
	IMALIV	PROCESS I'M ALIVE MESSAGE.
	INICHK	CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
	INITAP	INITIATE THE APPLICATION PROCESS.
	MNGMSG	MANAGE MESSSAGE.
	MNGPRC	MANAGE PROCESS.
	MPUINF	SUPPLY MPU INFORMATION TO MESSAGE HEADER.
	MPUINI	MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.
	OFFCLQ	HANDLE MESSAGES FOR OFF CLUSTER.
	PFINIT	PERFORM AP INITIATION.
	PRCONC	PROCESS MESSAGES FROM ON THE CLUSTER.
	PRINIT	PROCESS AP INITIATION MESSAGE.
	PRINPT	PROCESS CLUSTER INPUT.
	RTESND	ROUTE AND SEND A MESSAGE.
	SDPEND	PROCESS SHUT DOWN PENDING MSG ON UI APC.
	SENDAP	HANDLE MESSAGES FOR APS ON CLUSTER.
	STRAPC	START UP THE AP CLUSTER.
	SYSCOM	PROCESS SYSTEM COMMANDS.
	TABPRC	PROCESS TABLE STATUS MESSAGE FROM MONITOR.
	TIMCHK	TIME CHECKER.
	WTINIT	CHECK WAIT-FOR-INIT QUEUE FOR INIT MESSAGES FOR A GIVEN AP.

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
TBLAPO		
	ALDEAD	CHECK IF ALL APS ON APC ARE DEAD
	APDEAD	PROCESS AP DYING MESSAGE
	APOINI	INITIALIZE AP OPERATING TABLE.
	APOTBL	TABLE MANAGEMENT FUNCTION FOR THE AP OPERATING TABLE.
	APSTAT	PROCESS AP STATUS MESSAGES.
	CHDSTM	PROCESS CHILD STATUS MESSAGE.
	CNCLSD	PROCESS CANCEL SHUT DOWN MESSAGE ON UI APC.
	DELCLD	DELETE CHILD ENTRY FROM CHILD TABLE.
	DLVMSG	DELIVER MESSAGE TO THE AP.
	EXCMPU	EXECUTE MESSAGE PROCESSING UNIT.
	GDMSGS	PURPOSE NOT KNOWN - ACTIVE CODE.
	IATCHK	AGE I'M ALIVE TABLE ENTRIES.
	IMALIV	PROCESS I'M ALIVE MESSAGE.
	INICHK	CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
	INITAP	INITIATE THE APPLICATION PROCESS.
	MNGMSG	MANAGE MESSSAGE.
	MNGPRC	MANAGE PROCESS.
	MPUINI	MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.
	OFFCLQ	HANDLE MESSAGES FOR OFF CLUSTER.
	PFINIT	PERFORM AP INITIATION.
	PRCONC	PROCESS MESSAGES FROM ON THE CLUSTER.
	PRINIT	PROCESS AP INITIATION MESSAGE.
	PRINPT	PROCESS CLUSTER INPUT.
	RTESND	ROUTE AND SEND A MESSAGE.
	SDMODE	SHUTDOWN MODE PROCESSING.
	SDPEND	PROCESS SHUT DOWN PENDING MSG ON UI APC.
	SENDAP	HANDLE MESSAGES FOR APS ON CLUSTER.
	SHTAPC	SHUTDOWN THE AP CLUSTER.
	STRAPC	START UP THE AP CLUSTER.
	SYSCOM	PROCESS SYSTEM COMMANDS.
	TABPRC	PROCESS TABLE STATUS MESSAGE FROM MONITOR.

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
	TIMCHK	TIME CHECKER.
	WTINIT	CHECK WAIT-FOR-INIT QUEUE FOR INIT MESSAGES FOR A GIVEN AP.
TBLAPS		
	APDEAD	PROCESS AP DYING MESSAGE
	APSINI	INITIALIZE THE AP STATUS TABLE.
	APSTAT	PROCESS AP STATUS MESSAGES.
	APSTBL	TABLE MANAGEMENT FUNCTIONS AP STATUS TABLE.
	CHDPRC	CHILD TABLE PROCESSING.
	CHDSTM	PROCESS CHILD STATUS MESSAGE.
	CLDCHK	CHECK CHILD TABLE FOR RESERVED ENTRIES.
	CLNUP	CLEAN UP THE AP STATUS ENTRY AND CHILD TABLE.
	CMPHDR	COMPLETE MESSAGE HEADER.
	CNCLSD	PROCESS CANCEL SHUT DOWN MESSAGE ON UI APC.
	DELCLD	DELETE CHILD ENTRY FROM CHILD TABLE.
	DLVMSG	DELIVER MESSAGE TO THE AP.
	EXCMPU	EXECUTE MESSAGE PROCESSING UNIT.
	GDMSGS	PURPOSE NOT KNOWN - ACTIVE CODE.
	IATCHK	AGE I'M ALIVE TABLE ENTRIES.
	IMALIV	PROCESS I'M ALIVE MESSAGE.
	INICHK	CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
	INITAP	INITIATE THE APPLICATION PROCESS.
	LISTPR	SEND LIST OF ACTIVE AP'S ON THIS APC TO THE MONITOR AP.
	MNGMSG	MANAGE MESSSAGE.
	MNGPRC	MANAGE PROCESS.
	MPUINF	SUPPLY MPU INFORMATION TO MESSAGE HEADER.
	MPUINI	MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.
	OFFCLQ	HANDLE MESSAGES FOR OFF CLUSTER.
	PFINIT	PERFORM AP INITIATION.
	PRCONC	PROCESS MESSAGES FROM ON THE CLUSTER.

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
	PRINIT	PROCESS AP INITIATION MESSAGE.
	PRINPT	PROCESS CLUSTER INPUT.
	RTESND	ROUTE AND SEND A MESSAGE.
	SDMODE	SHUTDOWN MODE PROCESSING.
	SDPEND	PROCESS SHUT DOWN PENDING MSG ON UI APC.
	SENDAP	HANDLE MESSAGES FOR APS ON CLUSTER.
	SHTAPC	SHUTDOWN THE AP CLUSTER.
	SNDCLN	SEND CLEANUP MESSAGE TO CHILD AP.
	STRAPC	START UP THE AP CLUSTER.
	SYSCOM	PROCESS SYSTEM COMMANDS.
	TABPRC	PROCESS TABLE STATUS MESSAGE FROM MONITOR.
	TIMCHK	TIME CHECKER.
	WTINIT	CHECK WAIT-FOR-INIT QUEUE FOR INIT MESSAGES FOR A GIVEN AP.
TBLAPT		
	ADDPR	ADD ENTRY TO MESSAGE PAIR TABLE.
	APDEAD	PROCESS AP DYING MESSAGE
	APSTAT	PROCESS AP STATUS MESSAGES.
	APTINI	INITIALIZE THE AP CHARACTERISTICS TABLE.
	APTTBL	TABLE MANAGEMENT FUNCTIONS FOR THE AP CHARACTERISTIC TABLE.
	CHDPRC	CHILD TABLE PROCESSING.
	CHDSTM	PROCESS CHILD STATUS MESSAGE.
	CLDCHK	CHECK CHILD TABLE FOR RESERVED ENTRIES.
	CLNUP	CLEAN UP THE AP STATUS ENTRY AND CHILD TABLE.
	CMPHDR	COMPLETE MESSAGE HEADER.
	CNCLSD	PROCESS CANCEL SHUT DOWN MESSAGE ON UI APC.
	DELCLD	DELETE CHILD ENTRY FROM CHILD TABLE.
	DLVMSG	DELIVER MESSAGE TO THE AP.
	EXCMPU	EXECUTE MESSAGE PROCESSING UNIT.
	GDMSGS	PURPOSE NOT KNOWN - ACTIVE CODE.
	IATCHK	AGE I'M ALIVE TABLE ENTRIES.
	IMALIV	PROCESS I'M ALIVE MESSAGE.

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
	INICHK	CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
	INITAP	INITIATE THE APPLICATION PROCESS.
	KIDST	CHECK IF ALL CHILD APS ARE DEAD.
	LISTPR	SEND LIST OF ACTIVE AP'S ON THIS APC TO THE MONITOR AP.
	MNGMSG	MANAGE MESSSAGE.
	MNGPRC	MANAGE PROCESS.
	MPUINF	SUPPLY MPU INFORMATION TO MESSAGE HEADER.
	MPUINI	MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.
	OFFCLQ	HANDLE MESSAGES FOR OFF CLUSTER.
	PFINIT	PERFORM AP INITIATION.
	POSAUT	CHECK IF AUTH RESTRICTION ON THE DEST AP.
	PRCONC	PROCESS MESSAGES FROM ON THE CLUSTER.
	PRINIT	PROCESS AP INITIATION MESSAGE.
	PRINPT	PROCESS CLUSTER INPUT.
	RTESND	ROUTE AND SEND A MESSAGE.
	SDKIDS	SEND SHUTDOWN MESSAGES TO CHILD APS.
	SDPEND	PROCESS SHUT DOWN PENDING MSG ON UI APC.
	SENDAP	HANDLE MESSAGES FOR APS ON CLUSTER.
	SFTSD	SEND SOFT SHUT DOWN MESSAGE TO AP.
	SHTAPC	SHUTDOWN THE AP CLUSTER.
	SNDCAN	SEND CANNED MESSAGE TO AP.
	SNDSAP	SEND MESSAGE TO SOURCE AP.
	SNDSTE	SEND SYSTEM STATE MESSAGE TO ALIVE AP.
	STRAPC	START UP THE AP CLUSTER.
	SYSCOM	PROCESS SYSTEM COMMANDS.
	TABPRC	PROCESS TABLE STATUS MESSAGE FROM MONITOR.
	TIMCHK	TIME CHECKER.
	TRMAPC	TERMINATE THE AP CLUSTER.
	VMSGCT	VERIFY MESSAGE CATEGORY.
	WRITPR	WRITE PROCESS.
	WTINIT	CHECK WAIT-FOR-INIT QUEUE FOR INIT MESSAGES FOR A GIVEN AP.

TBLAUT

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
	AUTMSG	AUTHORITY TABLE CHECK TO SEE IF MESSAGE CAN BE SENT.
	AUTTBL	TABLE MANAGEMENT FUNCTIONS FOR THE AUTHORITY CHECK TABLE.
	EXCMPU	EXECUTE MESSAGE PROCESSING UNIT.
	MNGMSG	MANAGE MESSSAGE.
	MPUINI	MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.
	POSAUT	CHECK IF AUTH RESTRICTION ON THE DEST AP.
	PRCONC	PROCESS MESSAGES FROM ON THE CLUSTER.
	PRINPT	PROCESS CLUSTER INPUT.
	STRAPC	START UP THE AP CLUSTER.
	TABPRC	PROCESS TABLE STATUS MESSAGE FROM MONITOR.
TBLCAT		
	CATTBL	TABLE MANAGEMENT FUNCTIONS FOR THE MESSAGE CATEGORY TABLE.
	CMPHDR	COMPLETE MESSAGE HEADER.
	EXCMPU	EXECUTE MESSAGE PROCESSING UNIT.
	MAPHST	MAP TO THE HOST TABLES.
	MNGMSG	MANAGE MESSSAGE.
	MPUINF	SUPPLY MPU INFORMATION TO MESSAGE HEADER.
	MPUINI	MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.
	PRCONC	PROCESS MESSAGES FROM ON THE CLUSTER.
	PRINPT	PROCESS CLUSTER INPUT.
	VMSGCT	VERIFY MESSAGE CATEGORY.
TBLCLD		
	APDEAD	PROCESS AP DYING MESSAGE
	APSTAT	PROCESS AP STATUS MESSAGES.
	CHDPRC	CHILD TABLE PROCESSING.
	CHDSTM	PROCESS CHILD STATUS MESSAGE.
	CLDCHK	CHECK CHILD TABLE FOR RESERVED ENTRIES.

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
	CLDINI	INITIALIZE CHILD TABLE.
	CLDTBL	TABLE MANAGEMENT FUNCTIONS FOR THE CHILD TABLE.
	CNCLSD	PROCESS CANCEL SHUT DOWN MESSAGE ON UI APC.
	DELCLD	DELETE CHILD ENTRY FROM CHILD TABLE.
	DLVMSG	DELIVER MESSAGE TO THE AP.
	EXCMPU	EXECUTE MESSAGE PROCESSING UNIT.
	GDMSGS	PURPOSE NOT KNOWN - ACTIVE CODE.
	IMALIV	PROCESS I'M ALIVE MESSAGE.
	INICHK	CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
	INITAP	INITIATE THE APPLICATION PROCESS.
	KIDST	CHECK IF ALL CHILD APS ARE DEAD.
	MNGMSG	MANAGE MESSSAGE.
	MNGPRC	MANAGE PROCESS.
	MPUINI	MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.
	OFFCLQ	HANDLE MESSAGES FOR OFF CLUSTER.
	PFINIT	PERFORM AP INITIATION.
	PRCONC	PROCESS MESSAGES FROM ON THE CLUSTER.
	PRINIT	PROCESS AP INITIATION MESSAGE.
	PRINPT	PROCESS CLUSTER INPUT.
	RTESND	ROUTE AND SEND A MESSAGE.
	SDKIDS	SEND SHUTDOWN MESSAGES TO CHILD APS.
	SDPEND	PROCESS SHUT DOWN PENDING MSG ON UI APC.
	SENDAP	HANDLE MESSAGES FOR APS ON CLUSTER.
	SHTAPC	SHUTDOWN THE AP CLUSTER.
	STRAPC	START UP THE AP CLUSTER.
	SYSCOM	PROCESS SYSTEM COMMANDS.
	TABPRC	PROCESS TABLE STATUS MESSAGE FROM MONITOR.
	TIMCHK	TIME CHECKER.
	WTINIT	CHECK WAIT-FOR-INIT QUEUE FOR INIT MESSAGES FOR A GIVEN AP.
TBLDEF		
	IATCHK	AGE I'M ALIVE TABLE ENTRIES.

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
	LISTPR	SEND LIST OF ACTIVE AP'S ON THIS APC TO THE MONITOR AP.
	PAIRCK	CHECK MESSAGE PAIR TABLE FOR TIMED OUT MESSAGES.
	SHTAPC	SHUTDOWN THE AP CLUSTER.
TBLDIR		
	APDEAD	PROCESS AP DYING MESSAGE
	APSTAT	PROCESS AP STATUS MESSAGES.
	CHDSTM	PROCESS CHILD STATUS MESSAGE.
	CNCLSD	PROCESS CANCEL SHUT DOWN MESSAGE ON UI APC.
	CRTPRC	CREATE PROCESSES (DETACHED) ON THE VAX.
	DELCLD	DELETE CHILD ENTRY FROM CHILD TABLE.
	DIRTBL	TABLE MANAGEMENT FUNCTIONS FOR THE DIRECTORY TABLE.
	DLVMSG	DELIVER MESSAGE TO THE AP.
	EXCMPU	EXECUTE MESSAGE PROCESSING UNIT.
	GDMSGS	PURPOSE NOT KNOWN - ACTIVE CODE.
	IMALIV	PROCESS I'M ALIVE MESSAGE.
	INICHK	CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
	INITAP	INITIATE THE APPLICATION PROCESS.
	MAPHST	MAP TO THE HOST TABLES.
	MNGMSG	MANAGE MESSSAGE.
	MNGPRC	MANAGE PROCESS.
	MPUINI	MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.
	OFFCLQ	HANDLE MESSAGES FOR OFF CLUSTER.
	PFINIT	PERFORM AP INITIATION.
	PRCONC	PROCESS MESSAGES FROM ON THE CLUSTER.
	PRINIT	PROCESS AP INITIATION MESSAGE.
	PRINPT	PROCESS CLUSTER INPUT.
	RTESND	ROUTE AND SEND A MESSAGE.
	SDPEND	PROCESS SHUT DOWN PENDING MSG ON UI APC.
	SENDAP	HANDLE MESSAGES FOR APS ON CLUSTER.
	STRAPC	START UP THE AP CLUSTER.

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
	SYSCOM	PROCESS SYSTEM COMMANDS.
	TIMCHK	TIME CHECKER.
	WTINIT	CHECK WAIT-FOR-INIT QUEUE FOR INIT MESSAGES FOR A GIVEN AP.
TBLGD		
	APDEAD	PROCESS AP DYING MESSAGE
	APSTAT	PROCESS AP STATUS MESSAGES.
	CHDSTM	PROCESS CHILD STATUS MESSAGE.
	CNCLSD	PROCESS CANCEL SHUT DOWN MESSAGE ON UI APC.
	DELCLD	DELETE CHILD ENTRY FROM CHILD TABLE.
	DLVMSG	DELIVER MESSAGE TO THE AP.
	EXCMPU	EXECUTE MESSAGE PROCESSING UNIT.
	GDMSGS	PURPOSE NOT KNOWN - ACTIVE CODE.
	GRDTBL	TABLE MANAGEMENT FUNCTIONS FOR THE GUARANTEED DELIVERY TABLE.
	IMALIV	PROCESS I'M ALIVE MESSAGE.
	INICHK	CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
	INITAP	INITIATE THE APPLICATION PROCESS.
	MNGMSG	MANAGE MESSSAGE.
	MNGPRC	MANAGE PROCESS.
	MPUINI	MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.
	OFFCLQ	HANDLE MESSAGES FOR OFF CLUSTER.
	PFINIT	PERFORM AP INITIATION.
	PRCONC	PROCESS MESSAGES FROM ON THE CLUSTER.
	PRINIT	PROCESS AP INITIATION MESSAGE.
	PRINPT	PROCESS CLUSTER INPUT.
	RTESND	ROUTE AND SEND A MESSAGE.
	SDPEND	PROCESS SHUT DOWN PENDING MSG ON UI APC.
	SENDAP	HANDLE MESSAGES FOR APS ON CLUSTER.
	STRAPC	START UP THE AP CLUSTER.
	SYSCOM	PROCESS SYSTEM COMMANDS.
	TABPRC	PROCESS TABLE STATUS MESSAGE FROM MONITOR.
	TIMCHK	TIME CHECKER.

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
	WTINIT	CHECK WAIT-FOR-INIT QUEUE FOR INIT MESSAGES FOR A GIVEN AP.
TBLHST		
	EXCMPU	EXECUTE MESSAGE PROCESSING UNIT.
	HSTTBL	TABLE MANAGEMENT FUNCTIONS FOR THE HOST STATUS TABLE
	MAPHST	MAP TO THE HOST TABLES.
	MPUINI	MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.
TBLIAT		
	APDEAD	PROCESS AP DYING MESSAGE
	APSTAT	PROCESS AP STATUS MESSAGES.
	CHDSTM	PROCESS CHILD STATUS MESSAGE.
	CNCLSD	PROCESS CANCEL SHUT DOWN MESSAGE ON UI APC.
	DELCLD	DELETE CHILD ENTRY FROM CHILD TABLE.
	DLVMSG	DELIVER MESSAGE TO THE AP.
	EXCMPU	EXECUTE MESSAGE PROCESSING UNIT.
	GDMSGS	PURPOSE NOT KNOWN - ACTIVE CODE.
	IATCHK	AGE I'M ALIVE TABLE ENTRIES.
	IATINI	INITIALIZE THE I'M ALIVE TABLE.
	IATTBL	TABLE MANAGEMENT FUNCTIONS FOR THE I'M ALIVE TABLE.
	IMALIV	PROCESS I'M ALIVE MESSAGE.
	INICHK	CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
	INITAP	INITIATE THE APPLICATION PROCESS.
	MNGMSG	MANAGE MESSSAGE.
	MNGPRC	MANAGE PROCESS.
	MPUINI	MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.
	OFFCLQ	HANDLE MESSAGES FOR OFF CLUSTER.

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
	PFINIT	PERFORM AP INITIATION.
	PRCONC	PROCESS MESSAGES FROM ON THE CLUSTER.
	PRINIT	PROCESS AP INITIATION MESSAGE.
	PRINPT	PROCESS CLUSTER INPUT.
	RTESND	ROUTE AND SEND A MESSAGE.
	SDPEND	PROCESS SHUT DOWN PENDING MSG ON UI APC.
	SENDAP	HANDLE MESSAGES FOR APS ON CLUSTER.
	STRAPC	START UP THE AP CLUSTER.
	SYSCOM	PROCESS SYSTEM COMMANDS.
	TABPRC	PROCESS TABLE STATUS MESSAGE FROM MONITOR.
	TIMCHK	TIME CHECKER.
	WTINIT	CHECK WAIT-FOR-INIT QUEUE FOR INIT MESSAGES FOR A GIVEN AP.
TBLLOG		
	EXCMPU	EXECUTE MESSAGE PROCESSING UNIT.
	MAPHST	MAP TO THE HOST TABLES.
	MPUINI	MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.
TBLLST		
	EXCMPU	EXECUTE MESSAGE PROCESSING UNIT.
	LSTTBL	TABLE MANAGEMENT FUNCTIONS FOR THE LINK STATUS TABLE.
	MAPHST	MAP TO THE HOST TABLES.
	MPUINI	MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.
TBLMPR		
	ADDPR	ADD ENTRY TO MESSAGE PAIR TABLE.
	APDEAD	PROCESS AP DYING MESSAGE

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
	APSTAT	PROCESS AP STATUS MESSAGES.
	CHDSTM	PROCESS CHILD STATUS MESSAGE.
	CNCLSD	PROCESS CANCEL SHUT DOWN MESSAGE ON UI APC.
	DELCLD	DELETE CHILD ENTRY FROM CHILD TABLE.
	DLVMSG	DELIVER MESSAGE TO THE AP.
	EXCMPU	EXECUTE MESSAGE PROCESSING UNIT.
	GDMSGS	PURPOSE NOT KNOWN - ACTIVE CODE.
	IMALIV	PROCESS I'M ALIVE MESSAGE.
	INICHK	CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
	INITAP	INITIATE THE APPLICATION PROCESS.
	MNGMSG	MANAGE MESSSAGE.
	MNGPRC	MANAGE PROCESS.
	MPRINI	INITILIAZE THE MESSAGE PAIR TABLE.
	MPRTBL	TABLE MANAGEMENT FUNCTION FOR THE MESSAGE PAIR TABLE.
	MPUINI	MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.
	OFFCLQ	HANDLE MESSAGES FOR OFF CLUSTER.
	PAIRCK	CHECK MESSAGE PAIR TABLE FOR TIMED OUT MESSAGES.
	PFINIT	PERFORM AP INITIATION.
	PRCONC	PROCESS MESSAGES FROM ON THE CLUSTER.
	PRINIT	PROCESS AP INITIATION MESSAGE.
	PRINPT	PROCESS CLUSTER INPUT.
	RMVPR	SEARCH FOR MATCH IN MESSAGE PAIR TABLE THEN REMOVE IT.
	RTESND	ROUTE AND SEND A MESSAGE.
	SDPEND	PROCESS SHUT DOWN PENDING MSG ON UI APC.
	SENDAP	HANDLE MESSAGES FOR APS ON CLUSTER.
	STRAPC	START UP THE AP CLUSTER.
	SYSCOM	PROCESS SYSTEM COMMANDS.
	TABPRC	PROCESS TABLE STATUS MESSAGE FROM MONITOR.
	TIMCHK	TIME CHECKER.
	WTINIT	CHECK WAIT-FOR-INIT QUEUE FOR INIT MESSAGES FOR A GIVEN AP.

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
TOMSG		
	PAIRCK	CHECK MESSAGE PAIR TABLE FOR TIMED OUT MESSAGES.
UNINAK		
	INITAK	BUILD AND SEND AN UNSOLICITED INITIATION ACCEPT MESSAGE.
WAITDE		
	FSTART	FINAL START-UP PROCEDURE.
	TABPRC	PROCESS TABLE STATUS MESSAGE FROM MONITOR.
WAITON		
	FSTART	FINAL START-UP PROCEDURE.
	TABPRC	PROCESS TABLE STATUS MESSAGE FROM MONITOR.
WRITED		
	DLVQUE	QUEUE MESSAGES TO ON APC AP'S IN DELIVER MESSAGE.
WRTINI		

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
	QWTINI	WRITE INIT MESSAGES THAT CANNOT BE HANDLED NOW TO A WAIT QUEUE
WRTMSG		
	OFFCLQ	HANDLE MESSAGES FOR OFF CLUSTER.
	WRITPR	WRITE PROCESS.
WTINIQ		
	INICHK	CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
	QWTINI	WRITE INIT MESSAGES THAT CANNOT BE HANDLED NOW TO A WAIT QUEUE
	WTINIT	CHECK WAIT-FOR-INIT QUEUE FOR INIT MESSAGES FOR A GIVEN AP.
WTIQFD		
	INICHK	CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
	QWTINI	WRITE INIT MESSAGES THAT CANNOT BE HANDLED NOW TO A WAIT QUEUE
	WTINIT	CHECK WAIT-FOR-INIT QUEUE FOR INIT MESSAGES FOR A GIVEN AP.
WTIQST		
	INICHK	CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
	QWTINI	WRITE INIT MESSAGES THAT CANNOT BE HANDLED NOW TO A WAIT QUEUE

NTM/MPU Where-include-file-used List

Include File	Module Name	Module Purpose
	WTINIT	CHECK WAIT-FOR-INIT QUEUE FOR INIT MESSAGES FOR A GIVEN AP.
WTMSGE		
	FSTART	FINAL START-UP PROCEDURE.

3.10.6 Where External Routine Used List

The following lists each external function or routine listed in 3.10.3 and all the documented modules which call it. The purpose of each module is listed as well.

NTM/MPU Where-external-routine-used List

System Module	Module Name	Module Purpose
ASCTIM		
	GDMSGS	PURPOSE NOT KNOWN - ACTIVE CODE.
	LGMESG	SEND A MESSAGE TO LOGTASK BASED ON LOGGING SELECTION.
CNLTIM		
	FSTART	FINAL START-UP PROCEDURE.
	PRINPT	PROCESS CLUSTER INPUT.
	TABPRC	PROCESS TABLE STATUS MESSAGE FROM MONITOR.
CRTMBX		
	INITST	INITIAL START-UP PROCEDURE.
DELMBX		
	TRMAPC	TERMINATE THE AP CLUSTER.
ENDRUN		
	MPUINI	MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.
ERRPRO		
	DLVMSG	DELIVER MESSAGE TO THE AP.
	IATTBL	TABLE MANAGEMENT FUNCTIONS FOR THE I'M ALIVE TABLE.
	SNDMON	SEND MONITOR A STATUS MESSAGE VIA ITS APC.
	SNDMTR	SEND LOCAL MONITOR A STATUS MESSAGE DIRECTLY WITH LOGGING.

NTM/MPU Where-external-routine-used List

System Module	Module Name	Module Purpose
GETMSG		
	FSTART	FINAL START-UP PROCEDURE.
	PRINPT	PROCESS CLUSTER INPUT.
	TABPRC	PROCESS TABLE STATUS MESSAGE FROM MONITOR.
GETTIM		
	ADDPR	ADD ENTRY TO MESSAGE PAIR TABLE.
	PAIRCK	CHECK MESSAGE PAIR TABLE FOR TIMED OUT MESSAGES.
IISSYS		
	MPUGEN	PURPOSE NOT KNOWN - ACTIVE CODE.
ITMADR		
	MAPHST	MAP TO THE HOST TABLES.
MTRGEN		
	MPUGEN	PURPOSE NOT KNOWN - ACTIVE CODE.
RCVMSG		
	FSTART	FINAL START-UP PROCEDURE.
	PRINPT	PROCESS CLUSTER INPUT.
	TABPRC	PROCESS TABLE STATUS MESSAGE FROM MONITOR.
RELEVB		
	INITAK	BUILD AND SEND AN UNSOLICITED INITIATION ACCEPT MESSAGE.

NTM/MPU Where-external-routine-used List

System Module	Module Name	Module Purpose
	LGMESG	SEND A MESSAGE TO LOGTASK BASED ON LOGGING SELECTION.
	OFFCLQ	HANDLE MESSAGES FOR OFF CLUSTER.
	SFTSD	SEND SOFT SHUT DOWN MESSAGE TO AP.
	SNDCAN	SEND CANNED MESSAGE TO AP.
	SNDCLN	SEND CLEANUP MESSAGE TO CHILD AP.
	SNDCSM	SEND CHILD STATUS MESSAGE TO PARENT AP.
	SNDMON	SEND MONITOR A STATUS MESSAGE VIA ITS APC.
	SNDMTR	SEND LOCAL MONITOR A STATUS MESSAGE DIRECTLY WITH LOGGING.
	SNDSAP	SEND MESSAGE TO SOURCE AP.
	SNDSTE	SEND SYSTEM STATE MESSAGE TO ALIVE AP.
	VIAOWN	SEND MESSAGE VIA OWN APC INPUT MAILBOX.
	WRITPR	WRITE PROCESS.
SETTIM		
	FSTART	FINAL START-UP PROCEDURE.
	PRINPT	PROCESS CLUSTER INPUT.
	TABPRC	PROCESS TABLE STATUS MESSAGE FROM MONITOR.
SNDMSG		
	INITAK	BUILD AND SEND AN UNSOLICITED INITIATION ACCEPT MESSAGE.
	LGMESG	SEND A MESSAGE TO LOGTASK BASED ON LOGGING SELECTION.
	OFFCLQ	HANDLE MESSAGES FOR OFF CLUSTER.
	SFTSD	SEND SOFT SHUT DOWN MESSAGE TO AP.
	SNDCAN	SEND CANNED MESSAGE TO AP.
	SNDCLN	SEND CLEANUP MESSAGE TO CHILD AP.
	SNDCSM	SEND CHILD STATUS MESSAGE TO PARENT AP.
	SNDMON	SEND MONITOR A STATUS MESSAGE VIA ITS APC.
	SNDMTR	SEND LOCAL MONITOR A STATUS MESSAGE DIRECTLY WITH LOGGING.
	SNDSAP	SEND MESSAGE TO SOURCE AP.
	SNDSTE	SEND SYSTEM STATE MESSAGE TO ALIVE AP.
	VIAOWN	SEND MESSAGE VIA OWN APC INPUT MAILBOX.

NTM/MPU Where-external-routine-used List

System Module	Module Name	Module Purpose
	WRITPR	WRITE PROCESS.
SYS$CREPRC		
	CRTPRC	CREATE PROCESSES (DETACHED) ON THE VAX.
SYS$DELPRC		
	DELPRC	DELETE PROCESSES ON THE VAX.
SYS$GETJPI		
	GETNAM	VAX PROCEDURE TO GET AP'S OS PROCESS NAME.
SYS$MGBLSC		
	MAPHST	MAP TO THE HOST TABLES.
SYS$TRNLOG		
	CRTPRC	CREATE PROCESSES (DETACHED) ON THE VAX.
WAIT02		
	FSTART	FINAL START-UP PROCEDURE.
	TABPRC	PROCESS TABLE STATUS MESSAGE FROM MONITOR.
WAIT03		
	PRINPT	PROCESS CLUSTER INPUT.

3.10.7 Main Program Parts List

The following lists each Main Program listed in 3.10.1 and all the modules which are called either by that module itself or by any of the documented modules which it calls. It is possible for a non-main module to be listed more that once if it is called by multiple modules. The called modules, in this case known as program parts, are marked as to whether they are documented here. If so, the phrase "well-defined module" appears by the module name, if not it is an "external "routine". The Purpose of the Main Program module is listed as well.

NTM/MPU Main Program Parts List

Main Pgm Name	Module Name	Module Type
AUTTBL	Purpose-->	TABLE MANAGEMENT FUNCTIONS FOR THE AUTHORITY CHECK TABLE.
	RANDIN	Well-defined module

NTM/MPU Main Program Parts List

Main Pgm Name	Module Name	Module Type
INICHK	Purpose-->	CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
	ABORT	Well-defined module
	ALDEAD	Well-defined module
	APCTBL	Well-defined module
	APDEAD	Well-defined module
	APITBL	Well-defined module
	APOTBL	Well-defined module
	APSTAT	Well-defined module
	APSTBL	Well-defined module
	APTTBL	Well-defined module
	ASCTIM	External routine
	CHDPRC	Well-defined module
	CHDSTM	Well-defined module
	CLDTBL	Well-defined module
	CLNHSD	Well-defined module
	CLNUP	Well-defined module
	CNCLSD	Well-defined module
	CRTPRC	Well-defined module
	DELCLD	Well-defined module
	DELPRC	Well-defined module
	DETCOM	Well-defined module
	DIRTBL	Well-defined module
	DLVMSG	Well-defined module
	DLVQUE	Well-defined module
	ERRPRO	External routine
	GDMSGS	Well-defined module
	GENSER	Well-defined module
	GRDTBL	Well-defined module
	HSTNRQ	Well-defined module
	IATTBL	Well-defined module
	IMALIV	Well-defined module
	INITAK	Well-defined module
	INITAP	Well-defined module
	KIDST	Well-defined module
	LISTPR	Well-defined module
	MNGPRC	Well-defined module
	MPRTBL	Well-defined module
	PFINIT	Well-defined module

NTM/MPU Main Program Parts List

Main Pgm Name	Module Name	Module Type
	PRINIT	Well-defined module
	QWTINI	Well-defined module
	RANDIN	Well-defined module
	RELEVB	External routine
	RMVPR	Well-defined module
	SDKIDS	Well-defined module
	SDPEND	Well-defined module
	SENDAP	Well-defined module
	SFTSD	Well-defined module
	SHTAPC	Well-defined module
	SHUTAP	Well-defined module
	SNDCAN	Well-defined module
	SNDCLN	Well-defined module
	SNDCSM	Well-defined module
	SNDMON	Well-defined module
	SNDMSG	External routine
	SNDSAP	Well-defined module
	SNDSTE	Well-defined module
	SYS$CREPRC	External routine
	SYS$DELPRC	External routine
	SYS$TRNLOG	External routine
	SYSCOM	Well-defined module
	VIAOWN	Well-defined module
	WRITPR	Well-defined module
	WTINIT	Well-defined module

NTM/MPU Main Program Parts List

Main Pgm Name	Module Name	Module Type
MPUGEN	Purpose-->	PURPOSE NOT KNOWN - ACTIVE CODE.
	IISSYS	External routine
	MTRGEN	External routine

NTM/MPU Main Program Parts List

Main Pgm Name	Module Name	Module Type
MPUINI	Purpose-->	MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.
	ABORT	Well-defined module
	ACTINI	Well-defined module
	ACTTBL	Well-defined module
	ADDPR	Well-defined module
	ALDEAD	Well-defined module
	APCTBL	Well-defined module
	APDEAD	Well-defined module
	APIINI	Well-defined module
	APITBL	Well-defined module
	APOINI	Well-defined module
	APOTBL	Well-defined module
	APSINI	Well-defined module
	APSTAT	Well-defined module
	APSTBL	Well-defined module
	APTINI	Well-defined module
	APTTBL	Well-defined module
	ASCTIM	External routine
	AUTMSG	Well-defined module
	CATTBL	Well-defined module
	CDMFIL	Well-defined module
	CHDPRC	Well-defined module
	CHDSTM	Well-defined module
	CLDCHK	Well-defined module
	CLDINI	Well-defined module
	CLDTBL	Well-defined module
	CLNHSD	Well-defined module
	CLNUP	Well-defined module
	CMPHDR	Well-defined module
	CNCLSD	Well-defined module
	CNLTIM	External routine
	CRTMBX	External routine
	CRTPRC	Well-defined module
	DELCLD	Well-defined module
	DELMBX	External routine
	DELPRC	Well-defined module
	DETCOM	Well-defined module
	DIRTBL	Well-defined module
	DLVMSG	Well-defined module

NTM/MPU Main Program Parts List

Main Pgm Name	Module Name	Module Type
	DLVQUE	Well-defined module
	ENDRUN	External routine
	ERRPRO	External routine
	EXCMPU	Well-defined module
	FSTART	Well-defined module
	GDMSGS	Well-defined module
	GENSER	Well-defined module
	GETMSG	External routine
	GETNAM	Well-defined module
	GETTIM	External routine
	GRDTBL	Well-defined module
	HSTNRQ	Well-defined module
	IATCHK	Well-defined module
	IATINI	Well-defined module
	IATTBL	Well-defined module
	IMALIV	Well-defined module
	INITAK	Well-defined module
	INITAP	Well-defined module
	INITST	Well-defined module
	ITMADR	External routine
	KIDST	Well-defined module
	LGMESG	Well-defined module
	LISTPR	Well-defined module
	MAPHST	Well-defined module
	MNGMSG	Well-defined module
	MNGPRC	Well-defined module
	MPRINI	Well-defined module
	MPRTBL	Well-defined module
	MPUINF	Well-defined module
	OFFCLQ	Well-defined module
	PADZER	Well-defined module
	PAIRCK	Well-defined module
	PFINIT	Well-defined module
	POSAUT	Well-defined module
	PRCONC	Well-defined module
	PRINIT	Well-defined module
	PRINPT	Well-defined module
	QWTINI	Well-defined module
	RANDIN	Well-defined module
	RCVMSG	External routine

NTM/MPU Main Program Parts List

Main Pgm Name	Module Name	Module Type
	RELEVB	External routine
	RMVAST	Well-defined module
	RMVPR	Well-defined module
	RTESND	Well-defined module
	SAVEQS	Well-defined module
	SDKIDS	Well-defined module
	SDMODE	Well-defined module
	SDPEND	Well-defined module
	SENDAP	Well-defined module
	SETTIM	External routine
	SFTSD	Well-defined module
	SHTAPC	Well-defined module
	SHUTAP	Well-defined module
	SNDCAN	Well-defined module
	SNDCLN	Well-defined module
	SNDCSM	Well-defined module
	SNDMON	Well-defined module
	SNDMSG	External routine
	SNDMTR	Well-defined module
	SNDSAP	Well-defined module
	SNDSTE	Well-defined module
	STRAPC	Well-defined module
	SUPDEF	Well-defined module
	SYS$CREPRC	External routine
	SYS$DELPRC	External routine
	SYS$GETJPI	External routine
	SYS$MGBLSC	External routine
	SYS$TRNLOG	External routine
	SYSCOM	Well-defined module
	TABPRC	Well-defined module
	TIMCHK	Well-defined module
	TRMAPC	Well-defined module
	VIAOWN	Well-defined module
	VMSGCT	Well-defined module
	VYOFFC	Well-defined module
	WAIT02	External routine
	WAIT03	External routine
	WRITPR	Well-defined module
	WTINIT	Well-defined module

3.10.8 Module Documentation

The following documentation describes information which is specific to each individual module being documented in this specification as listed in section 3.10.2. It provides a compact way of getting information that would be otherwise buried within each module's source code.

The specific items in this module documentation have the following meanings:

NAME:	Name of program Module.
PURPOSE:	Purpose of Module as detailed in the source code.
LANGUAGE:	Programming language source code is written in. The choices are: VAX-11 FORTRAN C (I/S-1 Workbench 'C') VAX-11 COBOL
MODULE TYPE:	Whether a Program, Subroutine, or Function.
SOURCE FILE:	Name of Source File from file specification.
SOURCE FILE TYPE:	Source File Extension from file specification.
HOST:	Whether this is a host-dependent routine (VAX or IBM) or blank if host-independent.
SUBSYSTEM:	IISS sub-system this file resides in.
SUBDIRECTORY:	Sub-directory of that subsystem in which this file resides.
DOCUMENTATION GROUP:	Name of documentation group of which this source file is a member.
DESCRIPTION:	A description of the module as otained from the source code.
ARGUMENTS:	The arguments with which this routine is called if it is a Subroutine or a Function.
INCLUDE FILES:	A list of all the files that are included into this module as well as their purposes.

ROUTINES CALLED:	Subroutines or Functions, either documented or external, called by this module, if any.
CALLED DIRECTLY BY:	The documented routines which call this module, if any.
USED IN MAIN PROGRAM(S):	The documented Main Programs which contain this module in their parts list according to the list in section 3.10.7.

The Module Documentation is arranged alphabetically according to Module Name.

NTM/MPU Module Documentation

NAME:
PURPOSE: SUBROUTINE USED TO REPLACE OR MODIFY THE IISS SYSGEN DATA
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE:

DESCRIPTION:

ARGUMENTS:

CHOICE-INDICATOR = DSPLY [X]

INCLUDE FILES:

BASYSG - **** PURPOSE NOT FOUND BY STRIPPER ****

NTM/MPU Module Documentation

NAME: ABORT
PURPOSE: PROCESS MESSAGE TYPE AB - ABORT APPLICATION
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: ABORT
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

-

ARGUMENTS:

MSGBUF =

CALLED DIRECTLY BY:

SYSCOM - PROCESS SYSTEM COMMANDS.

USED IN MAIN PROGRAM(S):

INICHK - CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: ACTINI
PURPOSE: LOAD THE AUTHORITY CHECK TABLE FROM THE AUTHORITY CHECK FIL
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: ACTINI
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

-

ARGUMENTS:

AUTH-CHECK-TABLE = RECRD
RET-CODE = DSPLY [X(5)]

INCLUDE FILES:

SYSERR - SYSTEM ERROR CODE DEFINITIONS.
TBLACT - PURPOSE.

CALLED DIRECTLY BY:

TABPRC - PROCESS TABLE STATUS MESSAGE FROM MONITOR.

USED IN MAIN PROGRAM(S):

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: ACTTBL
PURPOSE: TABLE MANAGEMENT FUNCTIONS FOR THE AUTHORITY CHECK TABLE
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: ACTTBL
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

-

ARGUMENTS:

AUTH-CHECK-TABLE = RECRD
FUNCTION-CODE = DSPLY [X(2)]
SEARCH-FIELD = DSPLY [X(30)]
SEARCH-VALUE = DSPLY [X(72)]
SEARCH-START-FLAG = DSPLY [X]
TABLE-INDEX = DSPLY
TABLE-ENTRY-BUFFER = DSPLY [X(72)]
RET-CODE = DSPLY [X(5)]

INCLUDE FILES:

SYSERR - SYSTEM ERROR CODE DEFINITIONS.
TBLACT - PURPOSE.

ROUTINES CALLED:

RANDIN - PROVIDE A RANDOM NUMBER FOR THE NTM TABLE ROUTINES.

CALLED DIRECTLY BY:

POSAUT - CHECK IF AUTH RESTRICTION ON THE DEST AP.

USED IN MAIN PROGRAM(S):

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: ADDPR
PURPOSE: ADD ENTRY TO MESSAGE PAIR TABLE.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: ADDPR
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- CALCULATE TIMEOUT AND INSERT AN ENTRY TO PAIR TABLE IN ASCENDING TIMEOUT ORDER. PAIR ENTRY CONSISTS OF TIMEOUT TIME, CHAN ID AND ORIG SOURCE.

ARGUMENTS:

AP-CHAR-TABLE = RECRD

INCLUDE FILES:

SDMNDT	- PURPOSE.
SDSPDT	- PURPOSE.
SYSERR	- SYSTEM ERROR CODE DEFINITIONS.
TABDEF	- INPUT DEFINITIONS FOR TABLE ROUTINES.
MPRBUF	- MESSAGE-PAIR-TABLE IS AN MPU LOCAL TABLE.
TBLAPT	- THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
LOGSEL	- STRUCTURE FOR SELECTIVE LOGGING INFORMATION.. KEPT IN GLOBAL.
TBLMPR	- MESSAGE-PAIR-TABLE IS AN MPU LOCAL TABLE.
INIDAT	- FORMAT FOR INITIAL APC DATA.
NTMMSG	- PURPOSE.

ROUTINES CALLED:

GETTIM	
PADZER	- CONVERT BINARY FIELD TO A CHARACTER FIELD AND PAD WITH ZEROS.
MPRTBL	- TABLE MANAGEMENT FUNCTION FOR THE MESSAGE PAIR TABLE.
SNDSAP	- SEND MESSAGE TO SOURCE AP.
SNDMTR	- SEND LOCAL MONITOR A STATUS MESSAGE DIRECTLY WITH LOGGING.
SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.

CALLED DIRECTLY BY:

PRCONC - PROCESS MESSAGES FROM ON THE CLUSTER.

USED IN MAIN PROGRAM(S):

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: ALDEAD
PURPOSE: CHECK IF ALL APS ON APC ARE DEAD
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: ALDEAD
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- CHECK AP OPERATING INFO TABLE TO SEE IF APS ON THE APC ARE DEAD. THIS IS DONE BY CHECKING THE NUMBER OF INSTANCES OF EACH AP IN THE TABLE.

ARGUMENTS:

AP-OP-INFO-TABLE = RECRD
AP-DEAD-FLG =
IDATA = RECRD
LNK-SEARCH-START-FLG = DSPLY [X(01)]

INCLUDE FILES:

SDMNDT	- PURPOSE.
SYSERR	- SYSTEM ERROR CODE DEFINITIONS.
APOBUF	- AP OPERATING INFO RECORD.
TABDEF	- INPUT DEFINITIONS FOR TABLE ROUTINES.
TBLAPO	- AP OPERATING INFORMATION TABLE IS MPU LOCAL; OVERFLOW SHARED.
INIDAT	- FORMAT FOR INITIAL APC DATA.
APDFLG	- INDICATES IF ALL APS ON AP CLUSTER ARE DEAD.
LOGSEL	- STRUCTURE FOR SELECTIVE LOGGING INFORMATION.. KEPT IN GLOBAL.

ROUTINES CALLED:

APOTBL	- TABLE MANAGEMENT FUNCTION FOR THE AP OPERATING TABLE.
SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.

CALLED DIRECTLY BY:

APDEAD	- PROCESS AP DYING MESSAGE
SDMODE	- SHUTDOWN MODE PROCESSING.

USED IN MAIN PROGRAM(S):

INICHK	- CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: APCLOG
PURPOSE: NOTIFY ACTLOG.DAT THAT AN APC HAS STARTED.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: PROGRAM
SOURCE FILE: APCLOG
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

-

NTM/MPU Module Documentation

NAME: APCTBL
PURPOSE: TABLE MANAGEMENT FUNCTIONS FOR THE AP CLUSTER STATUS TABLE.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: APCTBL
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

-

ARGUMENTS:

AP-CLUSTER-STATUS-TABLE = RECRD
FUNCTION-CODE = DSPLY [X(2)]
SEARCH-FIELD = DSPLY [X(30)]
SEARCH-VALUE = DSPLY [X(72)]
SEARCH-START-FLAG = DSPLY [X]
TABLE-INDEX = DSPLY
TABLE-ENTRY-BUFFER = DSPLY [X(72)]
RET-CODE = DSPLY [X(5)]

INCLUDE FILES:

SYSERR - SYSTEM ERROR CODE DEFINITIONS.
TBLAPC - THIS IS THE APC STATUS TABLE.... A HOST GLOBAL TABLE.

CALLED DIRECTLY BY:

DETCOM - DETERMINE CORRECT COMM AP.
HSTNRQ - HOST NAME REQUEST PROCESSING.
OFFCLQ - HANDLE MESSAGES FOR OFF CLUSTER.
RMVAST - REMOVE ASTERIKS FROM MESSAGE HEADER.
RTESND - ROUTE AND SEND A MESSAGE.

USED IN MAIN PROGRAM(S):

INICHK - CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

```
NAME:                   APDEAD
PURPOSE:                PROCESS AP DYING MESSAGE
LANGUAGE:               VAX-11 COBOL
MODULE TYPE:            SUBROUTINE
SOURCE FILE:            APDEAD
SOURCE FILE TYPE:       .COB
HOST:
SUBSYSTEM:              NTM
SUBDIRECTORY:           MPU
DOCUMENTATION GROUP:    NTMMPU

DESCRIPTION:
------------


  - PROCESS AN AP DYING MESSAGE BY UP-
  DATING THE AP STATUS TABLE.  IF NOT IN THE
  IISS SHUTDOWN MODE AND THE AP'S KIDS ARE DEAD
  AND THE AP IS NOT IT'S OWN PARENT(SOME UI APS)
  THEN SEND A CHILD STATUS MESSAGE TO THE PARENT.
  IF THE AP IS IT'S OWN PARENT THEN CALL 'CLNUP'
  TO DELETE THE AP STATUS ENTRY. THE INSTANCE
  COUNT IS ALSO DECREMENTED AND THE AP OPERATING
  TABLE IS UPDATED. FINALLY, THE WAIT-INIT
  QUEUE IS CHECKED FOR AN INIT MESSAGE AWAITING
  A FREE INSTANCE SO IT CAN BE PROCESSED. IF IN
  SHUTDOWN MODE, 'SEARCH-START-FLG ALDEAD' IS
  CALLED TO DETERMINE IF THE DEAD AP WAS THE LAST
  TO DIE ON THE APC.

  UPDATED JUN 9


ARGUMENTS:
----------
  DIRECTORY-TABLE = RECRD


INCLUDE FILES:
--------------
  CANMSG      - CANNED FORMAT FOR MESSAGE.
  SDMNDT      - PURPOSE.
  SYSERR      - SYSTEM ERROR CODE DEFINITIONS.
  TABDEF      - INPUT DEFINITIONS FOR TABLE ROUTINES.
  APSBUF      - THE AP STATUS TABLE ..... APC GLOBAL.
  APOBUF      - AP OPERATING INFO RECORD.
  TBLDIR      - THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.
  TBLAPS      - IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
  TBLAPO      - AP OPERATING INFORMATION TABLE IS MPU LOCAL;
                      OVERFLOW SHARED.
  NTMMSG      - PURPOSE.
  TBLCLD      - THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
  TBLAPT      - THIS IS THE AP CHARACTERISTIC TABLE... AN APC
                      GLOBAL TABLE.
  TBLAPC      - THIS IS THE APC STATUS TABLE.... A HOST GLOBAL
```

TABLE.

TBLIAT	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLMPR	- MESSAGE-PAIR-TABLE IS AN MPU LOCAL TABLE.
TBLGD	- THE GUARANTEED DELIVERY TABLE IN AN APC GLOBAL TABLE.
TBLAPI	- THE AP-INFORMATION-TABLE; APC GLOBAL; USED FOR ROUTING.
APDFLG	- INDICATES IF ALL APS ON AP CLUSTER ARE DEAD.
INIDAT	- FORMAT FOR INITIAL APC DATA.
SDDEF	- INDICATES THE TYPE OF SHUTDOWN THE APC IS IN.

ROUTINES CALLED:

APSTBL	- TABLE MANAGEMENT FUNCTIONS AP STATUS TABLE.
KIDST	- CHECK IF ALL CHILD APS ARE DEAD.
SNDCSM	- SEND CHILD STATUS MESSAGE TO PARENT AP.
CLNUP	- CLEAN UP THE AP STATUS ENTRY AND CHILD TABLE.
APOTBL	- TABLE MANAGEMENT FUNCTION FOR THE AP OPERATING TABLE.
WTINIT	- CHECK WAIT-FOR-INIT QUEUE FOR INIT MESSAGES FOR A GIVEN AP.
ALDEAD	- CHECK IF ALL APS ON APC ARE DEAD
SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.
SNDCAN	- SEND CANNED MESSAGE TO AP.
SENDAP	- HANDLE MESSAGES FOR APS ON CLUSTER.

CALLED DIRECTLY BY:

APSTAT	- PROCESS AP STATUS MESSAGES.

USED IN MAIN PROGRAM(S):

INICHK	- CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: APIINI
PURPOSE: INITIALIZE THE AP INFORMATION TABLE.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: APIINI
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

-

ARGUMENTS:

AP-INFO-TABLE = RECRD
RET-CODE = DSPLY [X(5)]

INCLUDE FILES:

SYSERR - SYSTEM ERROR CODE DEFINITIONS.
TBLAPI - THE AP-INFORMATION-TABLE; APC GLOBAL; USED FOR ROUTING.

CALLED DIRECTLY BY:

TABPRC - PROCESS TABLE STATUS MESSAGE FROM MONITOR.

USED IN MAIN PROGRAM(S):

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

```
NAME:                   APITBL
PURPOSE:                TABLE MANAGEMENT FUNCTIONS FOR THE AP
                        ROUTING TABLE
LANGUAGE:               VAX-11 COBOL
MODULE TYPE:            SUBROUTINE
SOURCE FILE:            APITBL
SOURCE FILE TYPE:       .COB
HOST:
SUBSYSTEM:              NTM
SUBDIRECTORY:           MPU
DOCUMENTATION GROUP:    NTMMPU

DESCRIPTION:
------------

  -


ARGUMENTS:
----------
  AP-INFO-TABLE = RECRD
  FUNCTION-CODE = DSPLY [X(2)]
  SEARCH-FIELD = DSPLY [X(30)]
  SEARCH-VALUE = DSPLY [X(72)]
  SEARCH-START-FLAG = DSPLY [X]
  TABLE-INDEX = DSPLY
  TABLE-ENTRY-BUFFER = DSPLY [X(72)]
  RET-CODE = DSPLY [X(5)]


INCLUDE FILES:
--------------
  SYSERR      - SYSTEM ERROR CODE DEFINITIONS.
  TBLAPI      - THE AP-INFORMATION-TABLE; APC GLOBAL; USED FOR
                ROUTING.


ROUTINES CALLED:
----------------
  RANDIN      - PROVIDE A RANDOM NUMBER FOR THE NTM TABLE
                ROUTINES.


CALLED DIRECTLY BY:
-------------------
  HSTNRQ      - HOST NAME REQUEST PROCESSING.
  MPUINF      - SUPPLY MPU INFORMATION TO MESSAGE HEADER.
  PRCONC      - PROCESS MESSAGES FROM ON THE CLUSTER.


USED IN MAIN PROGRAM(S):
------------------------
  INICHK      - CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE
```

FOR A GIVEN AP.

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: APOINI
PURPOSE: INITIALIZE AP OPERATING TABLE.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: APOINI
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

INITIALIZES THE AP-OPERATING INFO TABLE BY MOVING SPACES TO THE ENTRIES. AS THIS IS A DYNAMIC TABLE, THE SPACE MUST BE CLEAN. NOTE - FILES ARE NOT ACCESSED AT ALL.

-

ARGUMENTS:

AP-OP-INFO-TABLE = RECRD
RET-CODE =

INCLUDE FILES:

SYSERR - SYSTEM ERROR CODE DEFINITIONS.
TBLAPO - AP OPERATING INFORMATION TABLE IS MPU LOCAL; OVERFLOW SHARED.

CALLED DIRECTLY BY:

TABPRC - PROCESS TABLE STATUS MESSAGE FROM MONITOR.

USED IN MAIN PROGRAM(S):

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

```
NAME:                   APOTBL
PURPOSE:                TABLE MANAGEMENT FUNCTION FOR THE AP
                        OPERATING TABLE.
LANGUAGE:               VAX-11 COBOL
MODULE TYPE:            SUBROUTINE
SOURCE FILE:            APOTBL
SOURCE FILE TYPE:       .COB
HOST:
SUBSYSTEM:              NTM
SUBDIRECTORY:           MPU
DOCUMENTATION GROUP:    NTMMPU

DESCRIPTION:
------------

  -


ARGUMENTS:
----------
  AP-OP-INFO-TABLE = RECRD
  FUNCTION-CODE = DSPLY [X(2)]
  SEARCH-FIELD = DSPLY [X(30)]
  SEARCH-VALUE = DSPLY [X(72)]
  SEARCH-START-FLAG = DSPLY [X]
  TABLE-INDEX = DSPLY
  APO-BUFFER = RECRD
  RET-CODE = DSPLY [X(05)]
  CALLING-MODULE = DSPLY [X(06)]


INCLUDE FILES:
--------------
  FILERR      - THE NTM QUEUE ERROR FILE.
  SYSERR      - SYSTEM ERROR CODE DEFINITIONS.
  TBLAPO      - AP OPERATING INFORMATION TABLE IS MPU LOCAL;
                        OVERFLOW SHARED.


CALLED DIRECTLY BY:
-------------------
  ALDEAD      - CHECK IF ALL APS ON APC ARE DEAD
  APDEAD      - PROCESS AP DYING MESSAGE
  IATCHK      - AGE I'M ALIVE TABLE ENTRIES.
  IMALIV      - PROCESS I'M ALIVE MESSAGE.
  INITAP      - INITIATE THE APPLICATION PROCESS.
  PFINIT      - PERFORM AP INITIATION.
  SHTAPC      - SHUTDOWN THE AP CLUSTER.


USED IN MAIN PROGRAM(S):
------------------------
  INICHK      - CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE
```

FOR A GIVEN AP.

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

```
NAME:                   APSINI
PURPOSE:                INITIALIZE THE AP STATUS TABLE.
LANGUAGE:               VAX-11 COBOL
MODULE TYPE:            SUBROUTINE
SOURCE FILE:            APSINI
SOURCE FILE TYPE:       .COB
HOST:
SUBSYSTEM:              NTM
SUBDIRECTORY:           MPU
DOCUMENTATION GROUP:    NTMMPU

DESCRIPTION:
------------
  INITIALIZES THE AP STATUS TABLE BY MOVING
  SPACES TO THE ENTRIES. AS THIS IS A DYNAMIC TABLE,
  THE SPACE MUST BE CLEAN. NOTE - FILES ARE NOT
  ACCESSED AT ALL.

  -


ARGUMENTS:
----------
  AP-STATUS-TABLE = RECRD
  RET-CODE =


INCLUDE FILES:
--------------
  SYSERR      - SYSTEM ERROR CODE DEFINITIONS.
  TBLAPS      - IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.


CALLED DIRECTLY BY:
-------------------
  TABPRC      - PROCESS TABLE STATUS MESSAGE FROM MONITOR.


USED IN MAIN PROGRAM(S):
------------------------
  MPUINI      - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT
                POINT.
```

NTM/MPU Module Documentation

NAME: APSTAT
PURPOSE: PROCESS AP STATUS MESSAGES.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: APSTAT
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- BASED ON MESSAGE TYPE, ROUTINES ARE CALLED TO PROCESS THE AP STAT MESSAGES
UPDATED JUN 9

ARGUMENTS:

DIRECTORY-TABLE = RECRD

INCLUDE FILES:

TBLDIR	- THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.
TBLAPO	- AP OPERATING INFORMATION TABLE IS MPU LOCAL; OVERFLOW SHARED.
TBLAPI	- THE AP-INFORMATION-TABLE; APC GLOBAL; USED FOR ROUTING.
NTMMSG	- PURPOSE.
TBLAPS	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLAPT	- THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
TBLAPC	- THIS IS THE APC STATUS TABLE.... A HOST GLOBAL TABLE.
TBLIAT	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLCLD	- THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
TBLMPR	- MESSAGE-PAIR-TABLE IS AN MPU LOCAL TABLE.
TBLGD	- THE GUARANTEED DELIVERY TABLE IN AN APC GLOBAL TABLE.
APDFLG	- INDICATES IF ALL APS ON AP CLUSTER ARE DEAD.
SDDEF	- INDICATES THE TYPE OF SHUTDOWN THE APC IS IN.
INIDAT	- FORMAT FOR INITIAL APC DATA.

ROUTINES CALLED:

IMALIV	- PROCESS I'M ALIVE MESSAGE.
APDEAD	- PROCESS AP DYING MESSAGE
CHDSTM	- PROCESS CHILD STATUS MESSAGE.
DELCLD	- DELETE CHILD ENTRY FROM CHILD TABLE.
CHDPRC	- CHILD TABLE PROCESSING.

CALLED DIRECTLY BY:

MNGPRC - MANAGE PROCESS.

USED IN MAIN PROGRAM(S):

INICHK - CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: APSTBL
PURPOSE: TABLE MANAGEMENT FUNCTIONS AP STATUS TABLE.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: APSTBL
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

ARGUMENTS:

AP-STATUS-TABLE = RECRD

INCLUDE FILES:

FILERR - THE NTM QUEUE ERROR FILE.
SYSERR - SYSTEM ERROR CODE DEFINITIONS.
APSBUF - THE AP STATUS TABLE ..... APC GLOBAL.
TBLAPS - IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.

CALLED DIRECTLY BY:

APDEAD - PROCESS AP DYING MESSAGE
CHDPRC - CHILD TABLE PROCESSING.
CHDSTM - PROCESS CHILD STATUS MESSAGE.
CLDCHK - CHECK CHILD TABLE FOR RESERVED ENTRIES.
CLNUP - CLEAN UP THE AP STATUS ENTRY AND CHILD TABLE.
CNCLSD - PROCESS CANCEL SHUT DOWN MESSAGE ON UI APC.
DELCLD - DELETE CHILD ENTRY FROM CHILD TABLE.
DLVMSG - DELIVER MESSAGE TO THE AP.
IATCHK - AGE I'M ALIVE TABLE ENTRIES.
IMALIV - PROCESS I'M ALIVE MESSAGE.
INITAP - INITIATE THE APPLICATION PROCESS.
LISTPR - SEND LIST OF ACTIVE AP'S ON THIS APC TO THE MONITOR AP.
PFINIT - PERFORM AP INITIATION.
PRCONC - PROCESS MESSAGES FROM ON THE CLUSTER.
PRINIT - PROCESS AP INITIATION MESSAGE.
SDPEND - PROCESS SHUT DOWN PENDING MSG ON UI APC.
SENDAP - HANDLE MESSAGES FOR APS ON CLUSTER.
SHTAPC - SHUTDOWN THE AP CLUSTER.

USED IN MAIN PROGRAM(S):

INICHK - CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE

FOR A GIVEN AP.

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: APTINI
PURPOSE: INITIALIZE THE AP CHARACTERISTICS TABLE.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: APTINI
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

-

ARGUMENTS:

AP-CHAR-TABLE = RECRD
RET-CODE = DSPLY [X(5)]

INCLUDE FILES:

SYSERR - SYSTEM ERROR CODE DEFINITIONS.
TBLAPT - THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.

CALLED DIRECTLY BY:

TABPRC - PROCESS TABLE STATUS MESSAGE FROM MONITOR.

USED IN MAIN PROGRAM(S):

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: APTTBL
PURPOSE: TABLE MANAGEMENT FUNCTIONS FOR THE AP CHARACTERISTIC TABLE.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: APTTBL
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

-

ARGUMENTS:

AP-CHAR-TABLE = RECRD
FUNCTION-CODE = DSPLY [X(2)]
SEARCH-FIELD = DSPLY [X(30)]
SEARCH-VALUE = DSPLY [X(72)]
SEARCH-START-FLAG = DSPLY [X]
TABLE-INDEX = DSPLY
TABLE-ENTRY-BUFFER = DSPLY [X(72)]
RET-CODE = DSPLY [X(5)]

INCLUDE FILES:

SYSERR - SYSTEM ERROR CODE DEFINITIONS.
TBLAPT - THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.

ROUTINES CALLED:

RANDIN - PROVIDE A RANDOM NUMBER FOR THE NTM TABLE ROUTINES.

CALLED DIRECTLY BY:

CHDSTM - PROCESS CHILD STATUS MESSAGE.
DELCLD - DELETE CHILD ENTRY FROM CHILD TABLE.
LISTPR - SEND LIST OF ACTIVE AP'S ON THIS APC TO THE MONITOR AP.
MPUINF - SUPPLY MPU INFORMATION TO MESSAGE HEADER.
PFINIT - PERFORM AP INITIATION.
SFTSD - SEND SOFT SHUT DOWN MESSAGE TO AP.
SHTAPC - SHUTDOWN THE AP CLUSTER.

SNDCAN	- SEND CANNED MESSAGE TO AP.
SNDSAP	- SEND MESSAGE TO SOURCE AP.
SNDSTE	- SEND SYSTEM STATE MESSAGE TO ALIVE AP.
WRITPR	- WRITE PROCESS.

USED IN MAIN PROGRAM(S):

INICHK	- CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: AUTMSG
PURPOSE: AUTHORITY TABLE CHECK TO SEE IF MESSAGE CAN BE SENT.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: AUTMSG
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- CHECK THE AUTHORITY TABLE TO SEE IF MESSAGE CAN BE SENT FROM THE SPECIFIED SOURCE TO THE SPECIFIED DEST.

ARGUMENTS:

NTM-MESSAGE = RECRD

INCLUDE FILES:

TBLAUT - THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
NTMMSG - PURPOSE.

CALLED DIRECTLY BY:

POSAUT - CHECK IF AUTH RESTRICTION ON THE DEST AP.

USED IN MAIN PROGRAM(S):

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: AUTTBL
PURPOSE: TABLE MANAGEMENT FUNCTIONS FOR THE AUTHORITY CHECK TABLE.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: AUTTBL
SOURCE FILE TYPE: .COB
HOST: VAX
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

-

ARGUMENTS:

AUTHORITY-TABLE = RECRD
FUNCTION-CODE = DSPLY [X(2)]
SEARCH-FIELD = DSPLY [X(30)]
SEARCH-VALUE = DSPLY [X(72)]
SEARCH-START-FLAG = DSPLY [X]
TABLE-INDEX = DSPLY
TABLE-ENTRY-BUFFER = DSPLY [X(72)]
RET-CODE = DSPLY [X(5)]

INCLUDE FILES:

SYSERR - SYSTEM ERROR CODE DEFINITIONS.
TBLAUT - THE CHILD-TABLE IS AN MPU-LOCAL TABLE.

ROUTINES CALLED:

RANDIN - PROVIDE A RANDOM NUMBER FOR THE NTM TABLE ROUTINES.

NTM/MPU Module Documentation

NAME: CATTBL
PURPOSE: TABLE MANAGEMENT FUNCTIONS FOR THE MESSAGE CATEGORY TABLE.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: CATTBL
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

-

ARGUMENTS:

MESSAGE-CATEGORY-TABLE = RECRD
FUNCTION-CODE = DSPLY [X(2)]
SEARCH-FIELD = DSPLY [X(30)]
SEARCH-VALUE = DSPLY [X(72)]
SEARCH-START-FLAG = DSPLY [X]
TABLE-INDEX = DSPLY
TABLE-ENTRY-BUFFER = DSPLY [X(72)]
RET-CODE = DSPLY [X(5)]

INCLUDE FILES:

SYSERR - SYSTEM ERROR CODE DEFINITIONS.
TBLCAT - FORMAT FOR INITIAL APC DATA.

CALLED DIRECTLY BY:

MPUINF - SUPPLY MPU INFORMATION TO MESSAGE HEADER.
VMSGCT - VERIFY MESSAGE CATEGORY.

USED IN MAIN PROGRAM(S):

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: CDMFIL
PURPOSE: REQUEST NEW TABLE FROM CDM.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: PROGRAM
SOURCE FILE: CDMFIL
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

-

CALLED DIRECTLY BY:

TABPRC - PROCESS TABLE STATUS MESSAGE FROM MONITOR.

USED IN MAIN PROGRAM(S):

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: CHDPRC
PURPOSE: CHILD TABLE PROCESSING.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: CHDPRC
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- A CHILD TABLE ENTRY CONSISTING OF
CHILD APNAME, CHILD APCNAME, CHILD STATUS,
AN INDEX TO NEXT SIBLING AND A LOGICAL CHAN
ID IS CREATED AND ENTERED INTO THE TABLE.
IF NO ROOM IN TABLE, A 'RESOURCE UNAVAIL' MSG
IS SENT TO MTR AP AND MSG SOURCE.

ARGUMENTS:

AP-CHAR-TABLE = RECRD

INCLUDE FILES:

CANDEF	- DEFINITIONS OF DATA PORTION OF CANNED MESSAGES.
CANMSG	- CANNED FORMAT FOR MESSAGE.
TABDEF	- INPUT DEFINITIONS FOR TABLE ROUTINES.
SYSERR	- SYSTEM ERROR CODE DEFINITIONS.
CLDBUF	- SPACES OR 0.
APSBUF	- THE AP STATUS TABLE ..... APC GLOBAL.
SDMNDT	- PURPOSE.
SDSPDT	- PURPOSE.
TBLAPT	- THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
TBLCLD	- THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
TBLAPS	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
INIDAT	- FORMAT FOR INITIAL APC DATA.
NTMMSG	- PURPOSE.

ROUTINES CALLED:

APSTBL	- TABLE MANAGEMENT FUNCTIONS AP STATUS TABLE.
CLDTBL	- TABLE MANAGEMENT FUNCTIONS FOR THE CHILD TABLE.
SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.
SNDSAP	- SEND MESSAGE TO SOURCE AP.
SNDCAN	- SEND CANNED MESSAGE TO AP.

CALLED DIRECTLY BY:

APSTAT	- PROCESS AP STATUS MESSAGES.
PRCONC	- PROCESS MESSAGES FROM ON THE CLUSTER.

USED IN MAIN PROGRAM(S):

INICHK	- CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

```
NAME:                   CHDSTM
PURPOSE:                PROCESS CHILD STATUS MESSAGE.
LANGUAGE:               VAX-11 COBOL
MODULE TYPE:            SUBROUTINE
SOURCE FILE:            CHDSTM
SOURCE FILE TYPE:       .COB
HOST:
SUBSYSTEM:              NTM
SUBDIRECTORY:           MPU
DOCUMENTATION GROUP:    NTMMPU

DESCRIPTION:
------------
  LANGUAGE:  VAX-11 COBOL

  DESCRIPTION:
  ------------
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ARGUMENTS:
----------
  AP-CHAR-TABLE = RECRD


INCLUDE FILES:
--------------
  CANDEF      - DEFINITIONS OF DATA PORTION OF CANNED MESSAGES.
  CANMSG      - CANNED FORMAT FOR MESSAGE.
  SDMNDT      - PURPOSE.
  APSBUF      - THE AP STATUS TABLE ..... APC GLOBAL.
  SYSERR      - SYSTEM ERROR CODE DEFINITIONS.
  CLDBUF      - SPACES OR 0.
  TABDEF      - INPUT DEFINITIONS FOR TABLE ROUTINES.
  APTBUF      - AP CHAR TABLE RECORD BUFFER.
  TBLAPC      - THIS IS THE APC STATUS TABLE.... A HOST GLOBAL
                TABLE.
  TBLAPT      - THIS IS THE AP CHARACTERISTIC TABLE... AN APC
                GLOBAL TABLE.
  TBLAPS      - IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
  TBLCLD      - THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
  TBLMPR      - MESSAGE-PAIR-TABLE IS AN MPU LOCAL TABLE.
  TBLGD       - THE GUARANTEED DELIVERY TABLE IN AN APC GLOBAL
                TABLE.
  TBLAPO      - AP OPERATING INFORMATION TABLE IS MPU LOCAL;
                OVERFLOW SHARED.
  TBLAPI      - THE AP-INFORMATION-TABLE; APC GLOBAL; USED FOR
                ROUTING.
  TBLIAT      - IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
  TBLDIR      - THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.
  APDFLG      - INDICATES IF ALL APS ON AP CLUSTER ARE DEAD.
  INIDAT      - FORMAT FOR INITIAL APC DATA.
  SDDEF       - INDICATES THE TYPE OF SHUTDOWN THE APC IS IN.
  NTMMSG      - PURPOSE.
```

ROUTINES CALLED:

APSTBL	- TABLE MANAGEMENT FUNCTIONS AP STATUS TABLE.
CLDTBL	- TABLE MANAGEMENT FUNCTIONS FOR THE CHILD TABLE.
APTTBL	- TABLE MANAGEMENT FUNCTIONS FOR THE AP CHARACTERISTIC TABLE.
DLVMSG	- DELIVER MESSAGE TO THE AP.
DELPRC	- DELETE PROCESSES ON THE VAX.
SNDCLN	- SEND CLEANUP MESSAGE TO CHILD AP.
SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.
SNDCSM	- SEND CHILD STATUS MESSAGE TO PARENT AP.
CLNUP	- CLEAN UP THE AP STATUS ENTRY AND CHILD TABLE.
SNDCAN	- SEND CANNED MESSAGE TO AP.

CALLED DIRECTLY BY:

APSTAT	- PROCESS AP STATUS MESSAGES.

USED IN MAIN PROGRAM(S):

INICHK	- CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: CLDCHK
PURPOSE: CHECK CHILD TABLE FOR RESERVED ENTRIES.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: CLDCHK
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

CHECK THE CHILD TABLE FOR RESERVED ENTRIES
THAT ARE NOT USED - AFTER 2 TRIES, THE ENTRY WILL BE
DELETED TO MAKE ROOM FOR VALID ENTRIES.

ARGUMENTS:

AP-CHAR-TABLE = RECRD

INCLUDE FILES:

CANDEF	- DEFINITIONS OF DATA PORTION OF CANNED MESSAGES.
CANMSG	- CANNED FORMAT FOR MESSAGE.
SYSERR	- SYSTEM ERROR CODE DEFINITIONS.
CLDBUF	- SPACES OR 0.
SDMNDT	- PURPOSE.
TABDEF	- INPUT DEFINITIONS FOR TABLE ROUTINES.
APSBUF	- THE AP STATUS TABLE ..... APC GLOBAL.
TBLAPT	- THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
INIDAT	- FORMAT FOR INITIAL APC DATA.
TBLCLD	- THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
TBLAPS	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.

ROUTINES CALLED:

CLDTBL	- TABLE MANAGEMENT FUNCTIONS FOR THE CHILD TABLE.
APSTBL	- TABLE MANAGEMENT FUNCTIONS AP STATUS TABLE.
SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.
SNDCAN	- SEND CANNED MESSAGE TO AP.

CALLED DIRECTLY BY:

TIMCHK	- TIME CHECKER.

USED IN MAIN PROGRAM(S):

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: CLDINI
PURPOSE: INITIALIZE CHILD TABLE.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: CLDINI
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

INITIALIZES THE CHILD TABLE BY MOVING
SPACES TO THE ENTRIES. AS THIS IS A DYNAMIC TABLE,
THE SPACE MUST BE CLEAN. NOTE - FILES ARE NOT
ACCESSED AT ALL.

-

ARGUMENTS:

CHILD-TABLE = RECRD
RET-CODE =

INCLUDE FILES:

SYSERR - SYSTEM ERROR CODE DEFINITIONS.
TBLCLD - THE CHILD-TABLE IS AN MPU-LOCAL TABLE.

CALLED DIRECTLY BY:

TABPRC - PROCESS TABLE STATUS MESSAGE FROM MONITOR.

USED IN MAIN PROGRAM(S):

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: CLDTBL
PURPOSE: TABLE MANAGEMENT FUNCTIONS FOR THE CHILD TABLE.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: CLDTBL
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

ARGUMENTS:

CHILD-TABLE = RECRD

INCLUDE FILES:

FILERR	- THE NTM QUEUE ERROR FILE.
SYSERR	- SYSTEM ERROR CODE DEFINITIONS.
CLDBUF	- SPACES OR 0.
TBLCLD	- THE CHILD-TABLE IS AN MPU-LOCAL TABLE.

CALLED DIRECTLY BY:

CHDPRC	- CHILD TABLE PROCESSING.
CHDSTM	- PROCESS CHILD STATUS MESSAGE.
CLDCHK	- CHECK CHILD TABLE FOR RESERVED ENTRIES.
DELCLD	- DELETE CHILD ENTRY FROM CHILD TABLE.
KIDST	- CHECK IF ALL CHILD APS ARE DEAD.
SDKIDS	- SEND SHUTDOWN MESSAGES TO CHILD APS.

USED IN MAIN PROGRAM(S):

INICHK	- CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: CLNHSD
PURPOSE: PURPOSE NOT KNOWN - STUBBED OUT.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: CLNHSD
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

-

ARGUMENTS:

MSGBUF =

CALLED DIRECTLY BY:

SYSCOM - PROCESS SYSTEM COMMANDS.

USED IN MAIN PROGRAM(S):

INICHK - CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: CLNUP
PURPOSE: CLEAN UP THE AP STATUS ENTRY AND CHILD TABLE.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: CLNUP
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- CLEAN UP THE AP STATUS TABLE ENTRY FOR THE SPECIFIED AP AND CLEAN UP IT'S CHLD TABLE ALSO.

ARGUMENTS:

AP-CHAR-TABLE = RECRD

INCLUDE FILES:

CANDEF	- DEFINITIONS OF DATA PORTION OF CANNED MESSAGES.
CANMSG	- CANNED FORMAT FOR MESSAGE.
SDMNDT	- PURPOSE.
APSBUF	- THE AP STATUS TABLE ..... APC GLOBAL.
TABDEF	- INPUT DEFINITIONS FOR TABLE ROUTINES.
TBLAPT	- THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
TBLAPS	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
INIDAT	- FORMAT FOR INITIAL APC DATA.
NTMMSG	- PURPOSE.

ROUTINES CALLED:

APSTBL	- TABLE MANAGEMENT FUNCTIONS AP STATUS TABLE.
SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.
SNDCAN	- SEND CANNED MESSAGE TO AP.

CALLED DIRECTLY BY:

APDEAD	- PROCESS AP DYING MESSAGE
CHDSTM	- PROCESS CHILD STATUS MESSAGE.
SYSCOM	- PROCESS SYSTEM COMMANDS.

USED IN MAIN PROGRAM(S):

INICHK	- CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: CMPHDR
PURPOSE: COMPLETE MESSAGE HEADER.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: CMPHDR
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

-
CHECKS FOR INVALID BLANKS IN THE MESSAGE HEADER
AND SENDS AN ERROR MESSAGE TO SOURCE AP IF FOUND.
IF NO INVALID BLANKS IN HEADER ARE FOUND THEN 'MPUINF'
IS CALLED TO RETRIEVE AND FILL IN THE MPU INFORMATION.
IF ALL IS SUCCESSFUL, 'SUPDEF' IS CALLED TO FILL IN
DEFAULT DATA AS NECESSARY.

ARGUMENTS:

AP-CHAR-TABLE = RECRD

INCLUDE FILES:

SYSERR - SYSTEM ERROR CODE DEFINITIONS.
SDMNDT - PURPOSE.
SDSPDT - PURPOSE.
TBLAPT - THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
TBLAPI - THE AP-INFORMATION-TABLE; APC GLOBAL; USED FOR ROUTING.
TBLAPS - IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLCAT - FORMAT FOR INITIAL APC DATA.
NTMMSG - PURPOSE.
INIDAT - FORMAT FOR INITIAL APC DATA.

ROUTINES CALLED:

MPUINF - SUPPLY MPU INFORMATION TO MESSAGE HEADER.
SNDSAP - SEND MESSAGE TO SOURCE AP.
SNDMON - SEND MONITOR A STATUS MESSAGE VIA ITS APC.
SUPDEF - SUPPLY SYSTEM DEFAULTS.

CALLED DIRECTLY BY:

PRCONC - PROCESS MESSAGES FROM ON THE CLUSTER.

USED IN MAIN PROGRAM(S):

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: CNCLSD
PURPOSE: PROCESS CANCEL SHUT DOWN MESSAGE ON UI APC.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: CNCLSD
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- UPON RECEIVING A CANCEL SHUTDOWN MESSAGE FROM THE MTR AP, THE MPU WILL FORWARD THIS MESSAGE TO ALL THE APPLICATION PROCESSES ON THE UI CLUSTER. THE UI APS MAY THEN DISPLAY THE MESSAGE TO THE USERS.

ARGUMENTS:

AP-CHAR-TABLE = RECRD

INCLUDE FILES:

TABDEF	- INPUT DEFINITIONS FOR TABLE ROUTINES.
SDMNDT	- PURPOSE.
APSBUF	- THE AP STATUS TABLE ..... APC GLOBAL.
INIDAT	- FORMAT FOR INITIAL APC DATA.
NTMMSG	- PURPOSE.
TBLAPT	- THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
TBLAPC	- THIS IS THE APC STATUS TABLE.... A HOST GLOBAL TABLE.
TBLAPS	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLMPR	- MESSAGE-PAIR-TABLE IS AN MPU LOCAL TABLE.
TBLGD	- THE GUARANTEED DELIVERY TABLE IN AN APC GLOBAL TABLE.
TBLAPO	- AP OPERATING INFORMATION TABLE IS MPU LOCAL; OVERFLOW SHARED.
TBLAPI	- THE AP-INFORMATION-TABLE; APC GLOBAL; USED FOR ROUTING.
TBLIAT	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLCLD	- THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
TBLDIR	- THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.
SDDEF	- INDICATES THE TYPE OF SHUTDOWN THE APC IS IN.
APDFLG	- INDICATES IF ALL APS ON AP CLUSTER ARE DEAD.

ROUTINES CALLED:

APSTBL	- TABLE MANAGEMENT FUNCTIONS AP STATUS TABLE.
DLVMSG	- DELIVER MESSAGE TO THE AP.
SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.

CALLED DIRECTLY BY:

SYSCOM	- PROCESS SYSTEM COMMANDS.

USED IN MAIN PROGRAM(S):

INICHK	- CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: CRTPRC
PURPOSE: CREATE PROCESSES (DETACHED) ON THE VAX.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: CRTPRC
SOURCE FILE TYPE: .COB
HOST: VAX
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

-

ARGUMENTS:

APNAME = RECRD
PRONME = DSPLY [X(13)]
BASE-PRIORITY = DSPLY [S9(9)]
TYPE-FLAG = DSPLY [X]
DIRECTORY-TABLE = RECRD
NTM-RETURN = DSPLY [X(5)]
SS-STATUS = DSPLY [S9(9)]

INCLUDE FILES:

CRTPRD - THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.
TBLDIR - THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.

ROUTINES CALLED:

DIRTBL - TABLE MANAGEMENT FUNCTIONS FOR THE DIRECTORY TABLE.
SYS$TRNLOG
SYS$CREPRC

CALLED DIRECTLY BY:

INITAP - INITIATE THE APPLICATION PROCESS.

USED IN MAIN PROGRAM(S):

INICHK - CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: DELCLD
PURPOSE: DELETE CHILD ENTRY FROM CHILD TABLE.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: DELCLD
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- DELETE THE CHILD STATUS TABLE ENTRY
AND SEND THE MESSAGE TO THE PARENT
AP IF REQUIRED.

ARGUMENTS:

AP-CHAR-TABLE = RECRD

INCLUDE FILES:

CANDEF	- DEFINITIONS OF DATA PORTION OF CANNED MESSAGES.
CANMSG	- CANNED FORMAT FOR MESSAGE.
TABDEF	- INPUT DEFINITIONS FOR TABLE ROUTINES.
APTBUF	- AP CHAR TABLE RECORD BUFFER.
SDMNDT	- PURPOSE.
CLDBUF	- SPACES OR 0.
APSBUF	- THE AP STATUS TABLE ..... APC GLOBAL.
TBLCLD	- THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
NTMMSG	- PURPOSE.
TBLAPT	- THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
TBLAPC	- THIS IS THE APC STATUS TABLE.... A HOST GLOBAL TABLE.
TBLAPS	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLMPR	- MESSAGE-PAIR-TABLE IS AN MPU LOCAL TABLE.
TBLGD	- THE GUARANTEED DELIVERY TABLE IN AN APC GLOBAL TABLE.
TBLAPO	- AP OPERATING INFORMATION TABLE IS MPU LOCAL; OVERFLOW SHARED.
TBLAPI	- THE AP-INFORMATION-TABLE; APC GLOBAL; USED FOR ROUTING.
TBLIAT	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLDIR	- THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.
SDDEF	- INDICATES THE TYPE OF SHUTDOWN THE APC IS IN.
APDFLG	- INDICATES IF ALL APS ON AP CLUSTER ARE DEAD.
INIDAT	- FORMAT FOR INITIAL APC DATA.

ROUTINES CALLED:

CLDTBL	- TABLE MANAGEMENT FUNCTIONS FOR THE CHILD TABLE.
APTTBL	- TABLE MANAGEMENT FUNCTIONS FOR THE AP CHARACTERISTIC TABLE.
DLVMSG	- DELIVER MESSAGE TO THE AP.
APSTBL	- TABLE MANAGEMENT FUNCTIONS AP STATUS TABLE.
SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.
SNDCAN	- SEND CANNED MESSAGE TO AP.

CALLED DIRECTLY BY:

APSTAT	- PROCESS AP STATUS MESSAGES.

USED IN MAIN PROGRAM(S):

INICHK	- CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: DELPRC
PURPOSE: DELETE PROCESSES ON THE VAX.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: DELPRC
SOURCE FILE TYPE: .COB
HOST: VAX
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

-

ARGUMENTS:

PRONME = DSPLY [X(6)]
APNAME = DSPLY [X(5)]
NTM-RETURN = DSPLY [X(5)]
SS-STATUS = DSPLY [S9(9)]

INCLUDE FILES:

DELPRD - **** PURPOSE NOT FOUND BY STRIPPER ****

ROUTINES CALLED:

SYS$DELPRC

CALLED DIRECTLY BY:

CHDSTM - PROCESS CHILD STATUS MESSAGE.
SHTAPC - SHUTDOWN THE AP CLUSTER.

USED IN MAIN PROGRAM(S):

INICHK - CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: DETCOM
PURPOSE: DETERMINE CORRECT COMM AP.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: DETCOM
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- GIVEN THE MESSAGE DESTINATION (APCNAME), THE DEST HOST IS FOUND IN THE APC STATUS TABLE AND THE COMM PROC NAME IS DERIVED AND RETURNED TO THE CALLING ROUTINE. IF ERROR OCCURS, A BLANK DEST COMM PROC NAME WILL BE RETURNED.

ARGUMENTS:

AP-CLUSTER-STATUS-TABLE = RECRD

INCLUDE FILES:

TABDEF	- INPUT DEFINITIONS FOR TABLE ROUTINES.
SDMNDT	- PURPOSE.
SYSERR	- SYSTEM ERROR CODE DEFINITIONS.
APCBUF	- SPACES OR 0, EXCEPT FOR RSTAT WHICH IS INITALIZED
TBLAPC	- THIS IS THE APC STATUS TABLE.... A HOST GLOBAL TABLE.
INIDAT	- FORMAT FOR INITIAL APC DATA.

ROUTINES CALLED:

APCTBL	- TABLE MANAGEMENT FUNCTIONS FOR THE AP CLUSTER STATUS TABLE.
SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.

CALLED DIRECTLY BY:

DLVMSG	- DELIVER MESSAGE TO THE AP.

USED IN MAIN PROGRAM(S):

INICHK	- CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE

FOR A GIVEN AP.

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: DIRTBL
PURPOSE: TABLE MANAGEMENT FUNCTIONS FOR THE DIRECTORY TABLE.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: DIRTBL
SOURCE FILE TYPE: .COB
HOST: VAX
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

-

ARGUMENTS:

DIRECTORY-TABLE = RECRD
FUNCTION-CODE = DSPLY [X(2)]
SEARCH-FIELD = DSPLY [X(30)]
SEARCH-VALUE = DSPLY [X(72)]
SEARCH-START-FLAG = DSPLY [X]
TABLE-INDEX = DSPLY
TABLE-ENTRY-BUFFER = DSPLY [X(72)]
RET-CODE = DSPLY [X(5)]

INCLUDE FILES:

SYSERR - SYSTEM ERROR CODE DEFINITIONS.
TBLDIR - THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.

CALLED DIRECTLY BY:

CRTPRC - CREATE PROCESSES (DETACHED) ON THE VAX.

USED IN MAIN PROGRAM(S):

INICHK - CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: DLVMSG
PURPOSE: DELIVER MESSAGE TO THE AP.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: DLVMSG
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- IF THE DESTINATION AP IS ACTIVE, THE MSG IS WRITTEN TO THE AP'S HOT OR CODE MBX (DEPENDING ON MSG PRIORITY). IF THE MSG IS A RESPONSE THEN THE ENTRY IN THE PAIR TABLE IS REMOVED BEFORE WRITE PROCESS IS PERFORMED. IF THE ENTRY IN THE PAIR TABLE IS NOT FOUND, THE MSG WILL NOT BE DELIVERED. INSTEAD A MSG WILL BE SENT TO MTR THAT TIMEOUT EXPIRED ON THE MSG.

ARGUMENTS:

AP-CHAR-TABLE = RECRD

INCLUDE FILES:

CANDEF - DEFINITIONS OF DATA PORTION OF CANNED MESSAGES.
CANMSG - CANNED FORMAT FOR MESSAGE.
SDMNDT - PURPOSE.
SYSERR - SYSTEM ERROR CODE DEFINITIONS.
TABDEF - INPUT DEFINITIONS FOR TABLE ROUTINES.
APSBUF - THE AP STATUS TABLE ..... APC GLOBAL.
TBLAPT - THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
TBLAPC - THIS IS THE APC STATUS TABLE.... A HOST GLOBAL TABLE.
TBLAPS - IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLMPR - MESSAGE-PAIR-TABLE IS AN MPU LOCAL TABLE.
TBLGD - THE GUARANTEED DELIVERY TABLE IN AN APC GLOBAL TABLE.
TBLCLD - THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
TBLIAT - IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLAPO - AP OPERATING INFORMATION TABLE IS MPU LOCAL; OVERFLOW SHARED.
TBLAPI - THE AP-INFORMATION-TABLE; APC GLOBAL; USED FOR ROUTING.
TBLDIR - THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.
NTMMSG - PURPOSE.
INIDAT - FORMAT FOR INITIAL APC DATA.

SDDEF - INDICATES THE TYPE OF SHUTDOWN THE APC IS IN.
APDFLG - INDICATES IF ALL APS ON AP CLUSTER ARE DEAD.
ERRPRO - PROCESS ERROR INCLUDE FILE

ROUTINES CALLED:

DETCOM - DETERMINE CORRECT COMM AP.
APSTBL - TABLE MANAGEMENT FUNCTIONS AP STATUS TABLE.
PFINIT - PERFORM AP INITIATION.
SENDAP - HANDLE MESSAGES FOR APS ON CLUSTER.
RMVPR - SEARCH FOR MATCH IN MESSAGE PAIR TABLE THEN REMOVE IT.
ERRPRO
SNDMON - SEND MONITOR A STATUS MESSAGE VIA ITS APC.
SNDCAN - SEND CANNED MESSAGE TO AP.

CALLED DIRECTLY BY:

CHDSTM - PROCESS CHILD STATUS MESSAGE.
CNCLSD - PROCESS CANCEL SHUT DOWN MESSAGE ON UI APC.
DELCLD - DELETE CHILD ENTRY FROM CHILD TABLE.
MNGPRC - MANAGE PROCESS.
PFINIT - PERFORM AP INITIATION.
PRINIT - PROCESS AP INITIATION MESSAGE.
RTESND - ROUTE AND SEND A MESSAGE.
SDPEND - PROCESS SHUT DOWN PENDING MSG ON UI APC.

USED IN MAIN PROGRAM(S):

INICHK - CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Doc .cation

NAME: DLVQUE
PURPOSE: QUEUE MESSAGES TO ON APC AP'S IN DELIVER MESSAGE.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: DLVQUE
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- WRITES A MESSAGE TO THE ON-APC QUEUE WHEN THE AP IS UNAVAILABLE (IN INIT STAGE OR MAILBOX IS FULL).

ARGUMENTS:

NTM-MESSAGE = RECRD

INCLUDE FILES:

DLVQFI	- **********
DLVQFD	- **********
DLVQST	-
INIDAT	- FORMAT FOR INITIAL APC DATA.
NTMMSG	- PURPOSE.
OPENDL	-
WRITED	-
CLOSED	- **********

CALLED DIRECTLY BY:

SNDCAN	- SEND CANNED MESSAGE TO AP.
SNDMTR	- SEND LOCAL MONITOR A STATUS MESSAGE DIRECTLY WITH LOGGING.
SNDSAP	- SEND MESSAGE TO SOURCE AP.

USED IN MAIN PROGRAM(S):

INICHK	- CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: EXCMPU
PURPOSE: EXECUTE MESSAGE PROCESSING UNIT.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: EXCMPU
SOURCE FILE TYPE: .COB
HOST: VAX
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- EXCMPU IS THE MAIN PROGRAM FOR THE MESSAGE PROCESSING UNIT(MPU). IT CALLS ROUTINES TO PERFORM START UP, REGULAR INPUT PROCESSING AND APC TERMINATION. EXCMPU ALSO GETS THE INITIAL APC DATA FROM THE INI.DAT FILE AND MAPS TO HOST AND APC TABLES.

ARGUMENTS:

HOST-STATUS-TABLE = RECRD
AP-CLUSTER-STATUS-TABLE = RECRD
LINK-STATUS-TABLE = RECRD
LOGON-TABLE = RECRD
MESSAGE-CATEGORY-TABLE = RECRD
DIRECTORY-TABLE = RECRD
LOG-SELECT-STR = RECRD
AP-CHAR-TABLE = RECRD
AP-INFO-TABLE = RECRD
AP-OP-INFO-TABLE = RECRD
AP-STATUS-TABLE = RECRD
AUTH-CHECK-TABLE = RECRD
AUTHORITY-TABLE = RECRD
CHILD-TABLE = RECRD
GUAR-DEL-TABLE = RECRD
IM-ALIVE-TABLE = RECRD
MSG-PAIR-TABLE = RECRD
IDATA = RECRD

INCLUDE FILES:

FILERR - THE NTM QUEUE ERROR FILE.
SYSERR - SYSTEM ERROR CODE DEFINITIONS.
INPEVB - MPU'S MAIN PROCESSING EVENT BLOCKS--- ONE FOR THE APC HOT
SDMNDT - PURPOSE.
SDDEF - INDICATES THE TYPE OF SHUTDOWN THE APC IS IN.
APDFLG - INDICATES IF ALL APS ON AP CLUSTER ARE DEAD.

NTMMSG	- PURPOSE.
TBLHST	- THIS IS THE APC STATUS TABLE.... A HOST GLOBAL TABLE.
TBLAPC	- THIS IS THE APC STATUS TABLE.... A HOST GLOBAL TABLE.
TBLLST	- THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.
TBLLOG	- **** PURPOSE NOT FOUND BY STRIPPER ****
TBLCAT	- FORMAT FOR INITIAL APC DATA.
TBLDIR	- THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.
LOGSEL	- STRUCTURE FOR SELECTIVE LOGGING INFORMATION.. KEPT IN GLOBAL.
TBLAPT	- THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
TBLAPI	- THE AP-INFORMATION-TABLE; APC GLOBAL; USED FOR ROUTING.
TBLAPS	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLGD	- THE GUARANTEED DELIVERY TABLE IN AN APC GLOBAL TABLE.
TBLAPO	- AP OPERATING INFORMATION TABLE IS MPU LOCAL; OVERFLOW SHARED.
TBLAUT	- THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
TBLACT	- PURPOSE.
TBLCLD	- THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
TBLIAT	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLMPR	- MESSAGE-PAIR-TABLE IS AN MPU LOCAL TABLE.
INIDAT	- FORMAT FOR INITIAL APC DATA.

ROUTINES CALLED:

STRAPC	- START UP THE AP CLUSTER.
TRMAPC	- TERMINATE THE AP CLUSTER.
PRINPT	- PROCESS CLUSTER INPUT.

CALLED DIRECTLY BY:

MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

USED IN MAIN PROGRAM(S):

MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

```
NAME:                   FSTART
PURPOSE:                FINAL START-UP PROCEDURE.
LANGUAGE:               VAX-11 COBOL
MODULE TYPE:            SUBROUTINE
SOURCE FILE:            FSTART
SOURCE FILE TYPE:       .COB
HOST:
SUBSYSTEM:              NTM
SUBDIRECTORY:           MPU
DOCUMENTATION GROUP:    NTMMPU

DESCRIPTION:
------------


  - WAIT ON A MSG FROM MTR WITH THE FINAL
  START UP INSTRUCTIONS. IF MTR SENDS AN APC SD MSG OR IF
  TIMEOUT OCCURS BEFORE MSG ARRIVES, RET-CODE IS SET TO 0
  WHICH WILL CAUSE APC TO TERMINATE. IF CHANGE TABLE
  REQUEST IS MADE BY MTR, NEW TABLES FROM CDM WILL BE
  REQUESTED BY MPU. IF HOST ALIVE MSG IS SENT, PROCEDURE
  RETURNS SUCCESSFULLY.


ARGUMENTS:
----------
  IDATA = RECRD


INCLUDE FILES:
--------------
  SDMNDT      - PURPOSE.
  STEVB       - START UP DEFINITIONS.
  WAITDE      - SPACES OR 0.
  NTMMSG      - PURPOSE.
  SYSERR      - SYSTEM ERROR CODE DEFINITIONS.
  INPEVB      - MPU'S MAIN PROCESSING EVENT BLOCKS--- ONE FOR
                      THE APC HOT
  INIDAT      - FORMAT FOR INITIAL APC DATA.
  MBXNME      - APC 1NPUT MAILBOX NAME FORMAT.
  WAITON      -
  WTMSGE      - **** PURPOSE NOT FOUND BY STRIPPER ****


ROUTINES CALLED:
----------------
  RCVMSG
  SETTIM
  WAIT02
  CNLTIM
  GETMSG
  SNDMTR      - SEND LOCAL MONITOR A STATUS MESSAGE DIRECTLY
                      WITH LOGGING.
  SNDMON      - SEND MONITOR A STATUS MESSAGE VIA ITS APC.
```

CALLED DIRECTLY BY:

STRAPC - START UP THE AP CLUSTER.

USED IN MAIN PROGRAM(S):

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: GDMSGS
PURPOSE: PURPOSE NOT KNOWN - ACTIVE CODE.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: GDMSGS
SOURCE FILE TYPE: .COB
HOST: VAX
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

-

ARGUMENTS:

GUAR-DEL-TABLE = RECRD

INCLUDE FILES:

GDDATA	-
SYSERR	- SYSTEM ERROR CODE DEFINITIONS.
FILERR	- THE NTM QUEUE ERROR FILE.
CANMSG	- CANNED FORMAT FOR MESSAGE.
SDMNDT	- PURPOSE.
TBLGD	- THE GUARANTEED DELIVERY TABLE IN AN APC GLOBAL TABLE.
TBLAPT	- THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
TBLAPC	- THIS IS THE APC STATUS TABLE.... A HOST GLOBAL TABLE.
TBLDIR	- THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.
TBLAPI	- THE AP-INFORMATION-TABLE; APC GLOBAL; USED FOR ROUTING.
TBLAPO	- AP OPERATING INFORMATION TABLE IS MPU LOCAL; OVERFLOW SHARED.
TBLAPS	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLCLD	- THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
TBLIAT	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLMPR	- MESSAGE-PAIR-TABLE IS AN MPU LOCAL TABLE.
SDDEF	- INDICATES THE TYPE OF SHUTDOWN THE APC IS IN.
APDFLG	- INDICATES IF ALL APS ON AP CLUSTER ARE DEAD.
NTMMSG	- PURPOSE.
INIDAT	- FORMAT FOR INITIAL APC DATA.

ROUTINES CALLED:

SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.

SNDCAN	- SEND CANNED MESSAGE TO AP.
GRDTBL	- TABLE MANAGEMENT FUNCTIONS FOR THE GUARANTEED DELIVERY TABLE.
ASCTIM	
MNGPRC	- MANAGE PROCESS.

CALLED DIRECTLY BY:

MNGMSG	- MANAGE MESSSAGE.
OFFCLQ	- HANDLE MESSAGES FOR OFF CLUSTER.
PRCONC	- PROCESS MESSAGES FROM ON THE CLUSTER.
SENDAP	- HANDLE MESSAGES FOR APS ON CLUSTER.
STRAPC	- START UP THE AP CLUSTER.
SYSCOM	- PROCESS SYSTEM COMMANDS.

USED IN MAIN PROGRAM(S):

INICHK	- CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: GENSER
PURPOSE: GENERATE MESSAGE SERIAL NUMBER.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: GENSER
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- GENERATE THE NEXT MESSAGE SERIAL NUMBER. IF THE SERIAL NUMBER HAS REACHED THE MAXIMUM SERIAL NUMBER (9999999) THEN SERIAL NUMBER IS SET TO 1 AGAIN, OTHERWISE THE SERIAL NUMBER IS SIMPLY INCREMENTED BY 1.

ARGUMENTS:

IDATA = RECRD

INCLUDE FILES:

INIDAT - FORMAT FOR INITIAL APC DATA.

CALLED DIRECTLY BY:

PRCONC - PROCESS MESSAGES FROM ON THE CLUSTER.
SNDCAN - SEND CANNED MESSAGE TO AP.
SNDMON - SEND MONITOR A STATUS MESSAGE VIA ITS APC.
SNDMTR - SEND LOCAL MONITOR A STATUS MESSAGE DIRECTLY WITH LOGGING.
SNDSAP - SEND MESSAGE TO SOURCE AP.

USED IN MAIN PROGRAM(S):

INICHK - CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: GETNAM
PURPOSE: VAX PROCEDURE TO GET AP'S OS PROCESS NAME.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: GETNAM
SOURCE FILE TYPE: .COB
HOST: VAX
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

-

ARGUMENTS:

PROCESSNAME = DSPLY [X(13)]
NTM-RETURN = DSPLY [X(5)]

ROUTINES CALLED:

SYS$GETJPI

CALLED DIRECTLY BY:

INITST - INITIAL START-UP PROCEDURE.
MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

USED IN MAIN PROGRAM(S):

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: GRDTBL
PURPOSE: TABLE MANAGEMENT FUNCTIONS FOR THE GUARANTEED DELIVERY TABL
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: GRDTBL
SOURCE FILE TYPE: .COB
HOST: VAX
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

-

ARGUMENTS:

GUAR-DEL-TABLE = RECRD
FUNCTION-CODE = DSPLY [X(2)]
SEARCH-FIELD = DSPLY [X(30)]
SEARCH-VALUE = DSPLY [X(72)]
SEARCH-START-FLAG = DSPLY [X]
TABLE-INDEX = DSPLY
TABLE-ENTRY-BUFFER = DSPLY [X(72)]
RET-CODE = DSPLY [X(5)]

INCLUDE FILES:

SYSERR - SYSTEM ERROR CODE DEFINITIONS.
FILERR - THE NTM QUEUE ERROR FILE.
TBLGD - THE GUARANTEED DELIVERY TABLE IN AN APC GLOBAL TABLE.

ROUTINES CALLED:

RANDIN - PROVIDE A RANDOM NUMBER FOR THE NTM TABLE ROUTINES.

CALLED DIRECTLY BY:

GDMSGS - PURPOSE NOT KNOWN - ACTIVE CODE.

USED IN MAIN PROGRAM(S):

INICHK - CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE

FOR A GIVEN AP.

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: HSTNRQ
PURPOSE: HOST NAME REQUEST PROCESSING.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: HSTNRQ
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

-

ARGUMENTS:

AP-INFO-TABLE = RECRD

INCLUDE FILES:

HNRTMG - WRITTEN 11/2/83
SYSERR - SYSTEM ERROR CODE DEFINITIONS.
TABDEF - INPUT DEFINITIONS FOR TABLE ROUTINES.
APIBUF - SPACES OR 0.
APCBUF - SPACES OR 0, EXCEPT FOR RSTAT WHICH IS INITALIZED
TBLAPI - THE AP-INFORMATION-TABLE; APC GLOBAL; USED FOR ROUTING.
TBLAPC - THIS IS THE APC STATUS TABLE.... A HOST GLOBAL TABLE.
INIDAT - FORMAT FOR INITIAL APC DATA.
NTMMSG - PURPOSE.

ROUTINES CALLED:

APITBL - TABLE MANAGEMENT FUNCTIONS FOR THE AP ROUTING TABLE
APCTBL - TABLE MANAGEMENT FUNCTIONS FOR THE AP CLUSTER STATUS TABLE.
VIAOWN - SEND MESSAGE VIA OWN APC INPUT MAILBOX.

CALLED DIRECTLY BY:

SYSCOM - PROCESS SYSTEM COMMANDS.

USED IN MAIN PROGRAM(S):

INICHK	- CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: HSTTBL
PURPOSE: TABLE MANAGEMENT FUNCTIONS FOR THE HOST STATUS TABLE
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: HSTTBL
SOURCE FILE TYPE: .COB
HOST: VAX
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

-

ARGUMENTS:

HOST-STATUS-TABLE = RECRD
FUNCTION-CODE = DSPLY [X(2)]
SEARCH-FIELD = DSPLY [X(30)]
SEARCH-VALUE = DSPLY [X(72)]
SEARCH-START-FLAG = DSPLY [X]
TABLE-INDEX = DSPLY
TABLE-ENTRY-BUFFER = DSPLY [X(72)]
RET-CODE = DSPLY [X(5)]

INCLUDE FILES:

SYSERR - SYSTEM ERROR CODE DEFINITIONS.
TBLHST - THIS IS THE APC STATUS TABLE.... A HOST GLOBAL TABLE.

NTM/MPU Module Documentation

NAME: IATCHK
PURPOSE: AGE I'M ALIVE TABLE ENTRIES.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: IATCHK
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- CHECK EACH ENTRY IN I'M ALIVE TABLE FOR A LATE I'M ALIVE MESSAGE. IF THE NUMBER OF TRIES ON THE ENTRY IS THREE, THEN THE AP IS MUCH TOO LATE IN SENDING IT'S I'M ALIVE MESSAGE SO THE ENTRY IS DELETED AND AN ERROR MESSAGE IS SENT TO THE MONITR AP AND AN UNSUCCESSFUL INIT MESSAGE IS SENT TO THE PARENT AP. IF THE NUMBER OF TRIES ON THE ENTRY IS LESS THAN THREE, THE NUMBER IS UP-DATED AND THE ENTRY IS MODIFIED IN THE TABLE.

ARGUMENTS:

AP-CHAR-TABLE = RECRD
AP-OP-INFO-TABLE = RECRD
AP-STATUS-TABLE = RECRD
IM-ALIVE-TABLE = RECRD
IDATA = RECRD

INCLUDE FILES:

CANDEF - DEFINITIONS OF DATA PORTION OF CANNED MESSAGES.
CANMSG - CANNED FORMAT FOR MESSAGE.
TBLDEF -
BADINI - MODIFIED 1/30/84 FOR EXPANDED AP NAME
SYSERR - SYSTEM ERROR CODE DEFINITIONS.
IATBUF - THE AP STATUS TABLE ..... APC GLOBAL.
SDMNDT - PURPOSE.
TABDEF - INPUT DEFINITIONS FOR TABLE ROUTINES.
APSBUF - THE AP STATUS TABLE ..... APC GLOBAL.
APOBUF - AP OPERATING INFO RECORD.
TBLAPT - THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
TBLAPO - AP OPERATING INFORMATION TABLE IS MPU LOCAL; OVERFLOW SHARED.
TBLAPS - IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
INIDAT - FORMAT FOR INITIAL APC DATA.
TBLIAT - IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.

ROUTINES CALLED:

IATTBL	- TABLE MANAGEMENT FUNCTIONS FOR THE I'M ALIVE TABLE.
APSTBL	- TABLE MANAGEMENT FUNCTIONS AP STATUS TABLE.
VIAOWN	- SEND MESSAGE VIA OWN APC INPUT MAILBOX.
APOTBL	- TABLE MANAGEMENT FUNCTION FOR THE AP OPERATING TABLE.
SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.
SNDCAN	- SEND CANNED MESSAGE TO AP.

CALLED DIRECTLY BY:

TIMCHK	- TIME CHECKER.

USED IN MAIN PROGRAM(S):

MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

```
NAME:                   IATINI
PURPOSE:                INITIALIZE THE I'M ALIVE TABLE.
LANGUAGE:               VAX-11 COBOL
MODULE TYPE:            SUBROUTINE
SOURCE FILE:            IATINI
SOURCE FILE TYPE:       .COB
HOST:
SUBSYSTEM:              NTM
SUBDIRECTORY:           MPU
DOCUMENTATION GROUP:    NTMMPU

DESCRIPTION:
------------
  INITIALIZES THE IM ALIVE TABLE BY MOVING
  SPACES TO THE ENTRIES. AS THIS IS A DYNAMIC TABLE,
  THE SPACE MUST BE CLEAN. NOTE - FILES ARE NOT
  ACCESSED AT ALL.

  -


ARGUMENTS:
----------
  IM-ALIVE-TABLE = RECRD
  RET-CODE =


INCLUDE FILES:
--------------
  SYSERR      - SYSTEM ERROR CODE DEFINITIONS.
  TBLIAT      - IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.


CALLED DIRECTLY BY:
-------------------
  TABPRC      - PROCESS TABLE STATUS MESSAGE FROM MONITOR.


USED IN MAIN PROGRAM(S):
------------------------
  MPUINI      - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT
                POINT.
```

NTM/MPU Module Documentation

NAME: IATTBL
PURPOSE: TABLE MANAGEMENT FUNCTIONS FOR THE I'M ALIVE TABLE.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: IATTBL
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

-

ARGUMENTS:

IM-ALIVE-TABLE = RECRD

INCLUDE FILES:

FILERR	- THE NTM QUEUE ERROR FILE.
SYSERR	- SYSTEM ERROR CODE DEFINITIONS.
TBLIAT	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
ERRPRO	- PROCESS ERROR INCLUDE FILE

ROUTINES CALLED:

ERRPRO

CALLED DIRECTLY BY:

IATCHK	- AGE I'M ALIVE TABLE ENTRIES.
IMALIV	- PROCESS I'M ALIVE MESSAGE.
INITAP	- INITIATE THE APPLICATION PROCESS.
SENDAP	- HANDLE MESSAGES FOR APS ON CLUSTER.

USED IN MAIN PROGRAM(S):

INICHK	- CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: IMALIV
PURPOSE: PROCESS I'M ALIVE MESSAGE.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: IMALIV
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- UPDATE THE AP STATUS TABLE ENTRY TO "ALIVE" AND SEND STATE MSG TO THE AP. REMOVE ENTRY FROM IM-ALIVE TABLE AND SEND QUEUED MSG (IF ONE) TO AP. IF NECESSARY, SEND UNSOLICITED INIT ACK TO PARENT AP NTM. IF THE AP THAT IS ALIVE IS "UI AP" OR THE MONITR AP THEN THE NUMBER OF INSTANCES IN THE AP OPERATING TABLE MUST BE INCREMENTED AS THE MPU DID NOT INIT THESE.

ARGUMENTS:

AP-CHAR-TABLE = RECRD

INCLUDE FILES:

CANDEF - DEFINITIONS OF DATA PORTION OF CANNED MESSAGES.
CANMSG - CANNED FORMAT FOR MESSAGE.
SDMNDT - PURPOSE.
SYSERR - SYSTEM ERROR CODE DEFINITIONS.
QMSG - **********
PSSAPC - **********
TABDEF - INPUT DEFINITIONS FOR TABLE ROUTINES.
APSBUF - THE AP STATUS TABLE ..... APC GLOBAL.
IATBUF - THE AP STATUS TABLE ..... APC GLOBAL.
SYSTAT - SYSTEM ERROR CODE DEFINITIONS.
SDSPDT - PURPOSE.
APOBUF - AP OPERATING INFO RECORD.
APIBUF - SPACES OR 0.
TBLAPO - AP OPERATING INFORMATION TABLE IS MPU LOCAL; OVERFLOW SHARED.
TBLAPI - THE AP-INFORMATION-TABLE; APC GLOBAL; USED FOR ROUTING.
TBLAPT - THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
TBLAPC - THIS IS THE APC STATUS TABLE.... A HOST GLOBAL TABLE.
NTMMSG - PURPOSE.

TBLAPS	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLIAT	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLMPR	- MESSAGE-PAIR-TABLE IS AN MPU LOCAL TABLE.
TBLGD	- THE GUARANTEED DELIVERY TABLE IN AN APC GLOBAL TABLE.
TBLCLD	- THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
TBLDIR	- THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.
SDDEF	- INDICATES THE TYPE OF SHUTDOWN THE APC IS IN.
APDFLG	- INDICATES IF ALL APS ON AP CLUSTER ARE DEAD.
INIDAT	- FORMAT FOR INITIAL APC DATA.

ROUTINES CALLED:

APSTBL	- TABLE MANAGEMENT FUNCTIONS AP STATUS TABLE.
IATTBL	- TABLE MANAGEMENT FUNCTIONS FOR THE I'M ALIVE TABLE.
INITAK	- BUILD AND SEND AN UNSOLICITED INITIATION ACCEPT MESSAGE.
SENDAP	- HANDLE MESSAGES FOR APS ON CLUSTER.
SNDSAP	- SEND MESSAGE TO SOURCE AP.
SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.
SNDSTE	- SEND SYSTEM STATE MESSAGE TO ALIVE AP.
APOTBL	- TABLE MANAGEMENT FUNCTION FOR THE AP OPERATING TABLE.
SNDCAN	- SEND CANNED MESSAGE TO AP.

CALLED DIRECTLY BY:

APSTAT	- PROCESS AP STATUS MESSAGES.

USED IN MAIN PROGRAM(S):

INICHK	- CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: INICHK
PURPOSE: CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: INICHK
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- THIS ROUTINE PROCESSES EACH INITIATION MESSAGE IN THE WAITING INITIATION MESSAGE QUEUE BY CALLING 'PFINIT' TO PERFORM INITIATION ON THE SPECIFIED APPLICATION PROCESS.

ARGUMENTS:

DIRECTORY-TABLE = RECRD

INCLUDE FILES:

WTINIQ	- MODIFIED 10/08/84 ADD SUPPORT FOR IBM IISS NODE BCS APM
WTIQFD	- MODIFIED 10/08/84 ADDED SUPPORT FOR IBM NODE BCS APM
NTMMSG	- PURPOSE.
WTIQST	- MODIFIED 10/08/84 ADDED SUPPORT FOR IBM NODE BCS APM
SYSERR	- SYSTEM ERROR CODE DEFINITIONS.
SDMNDT	- PURPOSE.
TBLDIR	- THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.
TBLAPT	- THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
TBLAPC	- THIS IS THE APC STATUS TABLE.... A HOST GLOBAL TABLE.
TBLAPO	- AP OPERATING INFORMATION TABLE IS MPU LOCAL; OVERFLOW SHARED.
TBLAPS	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLIAT	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLMPR	- MESSAGE-PAIR-TABLE IS AN MPU LOCAL TABLE.
TBLGD	- THE GUARANTEED DELIVERY TABLE IN AN APC GLOBAL TABLE.
INIDAT	- FORMAT FOR INITIAL APC DATA.
TBLAPI	- THE AP-INFORMATION-TABLE; APC GLOBAL; USED FOR ROUTING.

TBLCLD	- THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
SDDEF	- INDICATES THE TYPE OF SHUTDOWN THE APC IS IN.
APDFLG	- INDICATES IF ALL APS ON AP CLUSTER ARE DEAD.
OPIINI	- ADDED SUPPORT FOR IBM APC NAMES APM
RDWTIQ	- ADDED SUPPORTFOR IBM APC NAMES APM
REWINI	- WAIT-INIT QUEUE FILE
CLQINI	- MODIFIED 10/08/84 ADDED SUPPORT FOR IBM NODE BCS APM

ROUTINES CALLED:

PFINIT	- PERFORM AP INITIATION.
SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.

NTM/MPU Module Documentation

NAME: INITAK
PURPOSE: BUILD AND SEND AN UNSOLICITED INITIATION ACCEPT MESSAGE.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: INITAK
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- SEND AN ACKNOWLEGEMENT ON AN INITIATION THAT TOOK PLACE DUE TO AN UNSOLICITED INIT MESSAGE (NOT CAT 'H').

ARGUMENTS:

NTM-MESSAGE = RECRD

INCLUDE FILES:

SYSERR	- SYSTEM ERROR CODE DEFINITIONS.
SDMNDT	- PURPOSE.
MBXNME	- APC INPUT MAILBOX NAME FORMAT.
DLVEVB	- EVENT BLOCK DEFINITIONS FOR DELIVERING A MESSAGE.
CHKSTS	- CHKSTS.INC -- CHECK STATUS
UNINAK	- MODIFIED 2/4/84 FOR EXPANDED AP NAME
NTMMSG	- PURPOSE.
INIDAT	- FORMAT FOR INITIAL APC DATA.

ROUTINES CALLED:

SNDMSG	
SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.
RELEVB	

CALLED DIRECTLY BY:

IMALIV	- PROCESS I'M ALIVE MESSAGE.

USED IN MAIN PROGRAM(S):

INICHK	- CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE

FOR A GIVEN AP.

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: INITAP
PURPOSE: INITIATE THE APPLICATION PROCESS.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: INITAP
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- SPAWN THE SPECIFIED AP VIA THE OPERATING SYSTEM. IF THE SPAWN IS SUCCESSFUL THEN AN ENTRY IN THE STAT TABLE IS CREATED FOR THE AP WITH THE INIT STATUS. IF THE AP IS NOT AN MPU THEN THE # INSTANCES IN THE AP OP TABLE IS UPDATED AND AN ENTRY IS MADE IN IM ALIVE TABLE. IF THE SPAWN IS UNSUCC, AN UNSUCC INIT MSG IS SENT TO THE AP'S PARENT.

ARGUMENTS:

DIRECTORY-TABLE = RECRD

INCLUDE FILES:

SDMNDT - PURPOSE.
TABDEF - INPUT DEFINITIONS FOR TABLE ROUTINES.
BADINI - MODIFIED 1/30/84 FOR EXPANDED AP NAME
SYSERR - SYSTEM ERROR CODE DEFINITIONS.
IATBUF - THE AP STATUS TABLE ..... APC GLOBAL.
APSBUF - THE AP STATUS TABLE ..... APC GLOBAL.
DWTQST - **********
NTMMSG - PURPOSE.
TBLDTR - THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.
TBLAPT - THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
TBLAPO - AP OPERATING INFORMATION TABLE IS MPU LOCAL; OVERFLOW SHARED.
TBLAPS - IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLIAT - IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
INIDAT - FORMAT FOR INITIAL APC DATA.
TBLGD - THE GUARANTEED DELIVERY TABLE IN AN APC GLOBAL TABLE.
TBLAPI - THE AP-INFORMATION-TABLE; APC GLOBAL; USED FOR ROUTING.
TBLCLD - THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
TBLAPC - THIS IS THE APC STATUS TABLE.... A HOST GLOBAL TABLE.

TBLMPR	- MESSAGE-PAIR-TABLE IS AN MPU LOCAL TABLE.
SDDEF	- INDICATES THE TYPE OF SHUTDOWN THE APC IS IN.
APDFLG	- INDICATES IF ALL APS ON AP CLUSTER ARE DEAD.
APOBUF	- AP OPERATING INFO RECORD.

ROUTINES CALLED:

APSTBL	- TABLE MANAGEMENT FUNCTIONS AP STATUS TABLE.
CRTPRC	- CREATE PROCESSES (DETACHED) ON THE VAX.
APOTBL	- TABLE MANAGEMENT FUNCTION FOR THE AP OPERATING TABLE.
IATTBL	- TABLE MANAGEMENT FUNCTIONS FOR THE I'M ALIVE TABLE.
SENDAP	- HANDLE MESSAGES FOR APS ON CLUSTER.
VIAOWN	- SEND MESSAGE VIA OWN APC INPUT MAILBOX.
SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.

CALLED DIRECTLY BY:

PFINIT	- PERFORM AP INITIATION.
PRINIT	- PROCESS AP INITIATION MESSAGE.
SYSCOM	- PROCESS SYSTEM COMMANDS.

USED IN MAIN PROGRAM(S):

INICHK	- CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: INITST
PURPOSE: INITIAL START-UP PROCEDURE.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: INITST
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

-

ARGUMENTS:

IDATA = RECRD

INCLUDE FILES:

SDMNDT - PURPOSE.
STEVB - START UP DEFINITIONS.
SYSERR - SYSTEM ERROR CODE DEFINITIONS.
INPEVB - MPU'S MAIN PROCESSING EVENT BLOCKS--- ONE FOR THE APC HOT
LOGSEL - STRUCTURE FOR SELECTIVE LOGGING INFORMATION.. KEPT IN GLOBAL.
INIDAT - FORMAT FOR INITIAL APC DATA.
MBXNME - APC INPUT MAILBOX NAME FORMAT.

ROUTINES CALLED:

GETNAM - VAX PROCEDURE TO GET AP'S OS PROCESS NAME.
CRTMBX
SNDMTR - SEND LOCAL MONITOR A STATUS MESSAGE DIRECTLY WITH LOGGING.
SNDMON - SEND MONITOR A STATUS MESSAGE VIA ITS APC.

CALLED DIRECTLY BY:

STRAPC - START UP THE AP CLUSTER.

USED IN MAIN PROGRAM(S):

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: KIDST
PURPOSE: CHECK IF ALL CHILD APS ARE DEAD.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: KIDST
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- DETERMINE IF ALL THE KIDS FOR A GIVEN AP ARE DEAD.

ARGUMENTS:

AP-CHAR-TABLE = RECRD

INCLUDE FILES:

CANDEF	- DEFINITIONS OF DATA PORTION OF CANNED MESSAGES.
CANMSG	- CANNED FORMAT FOR MESSAGE.
SDMNDT	- PURPOSE.
SYSERR	- SYSTEM ERROR CODE DEFINITIONS.
TABDEF	- INPUT DEFINITIONS FOR TABLE ROUTINES.
CLDBUF	- SPACES OR 0.
TBLAPT	- THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
TBLCLD	- THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
INIDAT	- FORMAT FOR INITIAL APC DATA.

ROUTINES CALLED:

CLDTBL	- TABLE MANAGEMENT FUNCTIONS FOR THE CHILD TABLE.
SNDCAN	- SEND CANNED MESSAGE TO AP.

CALLED DIRECTLY BY:

APDEAD	- PROCESS AP DYING MESSAGE

USED IN MAIN PROGRAM(S):

INICHK	- CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE

FOR A GIVEN AP.

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: LGMESG
PURPOSE: SEND A MESSAGE TO LOGTASK BASED ON LOGGING SELECTION.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: LGMESG
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- A TIMESTAMP AND THE ERRCODE (COULD BE ZERO,NO ERROR) ARE ATTACHED TO THE MSG AND THE MSG IS WRITTEN TO THE MSG LOG FILE. IF THE MSG IS A GUARANTEED DELIVERY MSG, AN ACK OR NACK WILL BE SENT TO THE SOURCE.

ARGUMENTS:

NTM-MESSAGE = RECRD
LOG-SELECT-STR = RECRD
ERRCODE =
IDATA = RECRD

INCLUDE FILES:

SYSERR - SYSTEM ERROR CODE DEFINITIONS.
SDMNDT - PURPOSE.
SDSPDT - PURPOSE.
LGMSG - *
DLVEVB - EVENT BLOCK DEFINITIONS FOR DELIVERING A MESSAGE.
NTMMSG - PURPOSE.
LOGSEL - STRUCTURE FOR SELECTIVE LOGGING INFORMATION.. KEPT IN GLOBAL.
INIDAT - FORMAT FOR INITIAL APC DATA.

ROUTINES CALLED:

SNDMON - SEND MONITOR A STATUS MESSAGE VIA ITS APC.
ASCTIM
SNDMSG
RELEVB

CALLED DIRECTLY BY:

MNGMSG	- MANAGE MESSSAGE.
SNDMTR	- SEND LOCAL MONITOR A STATUS MESSAGE DIRECTLY WITH LOGGING.

USED IN MAIN PROGRAM(S):

MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: LISTPR
PURPOSE: SEND LIST OF ACTIVE AP'S ON THIS APC TO THE MONITOR AP.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: LISTPR
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- SEND A LIST OF ALL THE ACTIVE APPLICATION PROCESSES ON THE CLUSTER TO THE MONITR AP. FOR EACH AP ON THE LIST, THE FOLLOWING INFO IS GIVEN:
THE AP'S PROCESS NAME
THE AP'S ABORT CHARACTERISTIC
THE AP'S ORIGINAL SOURCE
THE LIST IS LIMITED TO 100 APS.

ARGUMENTS:

AP-CHAR-TABLE = RECRD

INCLUDE FILES:

APTBUF	- AP CHAR TABLE RECORD BUFFER.
APSBUF	- THE AP STATUS TABLE ..... APC GLOBAL.
TABDEF	- INPUT DEFINITIONS FOR TABLE ROUTINES.
AAMSG	- 28 JAN 84 : CHANGES FOR LONGER AP NAME
SDMNDT	- PURPOSE.
TBLDEF	-
NTMMSG	- PURPOSE.
TBLAPT	- THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
INIDAT	- FORMAT FOR INITIAL APC DATA.
TBLAPS	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.

ROUTINES CALLED:

APSTBL	- TABLE MANAGEMENT FUNCTIONS AP STATUS TABLE.
APTTBL	- TABLE MANAGEMENT FUNCTIONS FOR THE AP CHARACTERISTIC TABLE.
VIAOWN	- SEND MESSAGE VIA OWN APC INPUT MAILBOX.
SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.

CALLED DIRECTLY BY:

SYSCOM	- PROCESS SYSTEM COMMANDS.

USED IN MAIN PROGRAM(S):

INICHK	- CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: LSTTBL
PURPOSE: TABLE MANAGEMENT FUNCTIONS FOR THE LINK STATUS TABLE.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: LSTTBL
SOURCE FILE TYPE: .COB
HOST: VAX
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

-

ARGUMENTS:

LINK-STATUS-TABLE = RECRD
FUNCTION-CODE = DSPLY [X(2)]
SEARCH-FIELD = DSPLY [X(30)]
SEARCH-VALUE = DSPLY [X(72)]
SEARCH-START-FLAG = DSPLY [X]
TABLE-INDEX = DSPLY
TABLE-ENTRY-BUFFER = DSPLY [X(72)]
RET-CODE = DSPLY [X(5)]

INCLUDE FILES:

SYSERR - SYSTEM ERROR CODE DEFINITIONS.
TBLLST - THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.

NTM/MPU Module Documentation

NAME: MAPHST
PURPOSE: MAP TO THE HOST TABLES.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: MAPHST
SOURCE FILE TYPE: .COB
HOST: VAX
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

-

ARGUMENTS:

IISS-INSTANCE = DSPLY [X]

INCLUDE FILES:

TBLHST - THIS IS THE APC STATUS TABLE.... A HOST GLOBAL TABLE.
TBLAPC - THIS IS THE APC STATUS TABLE.... A HOST GLOBAL TABLE.
TBLLST - THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.
TBLLOG - **** PURPOSE NOT FOUND BY STRIPPER ****
TBLCAT - FORMAT FOR INITIAL APC DATA.
TBLDIR - THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.
LOGSEL - STRUCTURE FOR SELECTIVE LOGGING INFORMATION.. KEPT IN GLOBAL.
HSTGLE - THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.

ROUTINES CALLED:

ITMADR
SYS$MGBLSC

CALLED DIRECTLY BY:

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

USED IN MAIN PROGRAM(S):

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: MNGMSG
PURPOSE: MANAGE MESSSAGE.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: MNGMSG
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

-
MNGMSG CALLS PRCONC TO PROCESS MESSAGES FROM ON THE CLUSTER AND VYOFFC TO PROCESS MESSAGES FROM OFF THE CLUSTER. IF THE CURRENT APC IS COMM AND THE MESSAGE IS FROM OFF THE CLUSTER THEN ASTERIKS ARE REMOVED (AND REPLACED WITH BLANKS) FROM THE HEADER. ALL MESSAGES ARE LOGGED IN THE APC'S MSG LOG. IF ALL IN MANAGE MESSAGE GOES WELL AN ERROR CODE OF ZEROS WILL BE RETURNED TO PRINPT, THE CALLING PROGRAM.

ARGUMENTS:

AP-CHAR-TABLE = RECRD
LOG-SELECT-STR = RECRD
AP-CLUSTER-STATUS-TABLE = RECRD
AP-INFO-TABLE = RECRD
AP-STATUS-TABLE = RECRD
AUTH-CHECK-TABLE = RECRD
AUTHORITY-TABLE = RECRD
CHILD-TABLE = RECRD
GUAR-DEL-TABLE = RECRD
MESSAGE-CATEGORY-TABLE = RECRD
MSG-PAIR-TABLE = RECRD
DIRECTORY-TABLE = RECRD
AP-OP-INFO-TABLE = RECRD
IM-ALIVE-TABLE = RECRD
AP-DEAD-FLG =
NTM-MESSAGE = RECRD
ERRCODE =
IDATA = RECRD
SDFLG = DSPLY [X]

INCLUDE FILES:

GDARGS -
TBLAPC - THIS IS THE APC STATUS TABLE.... A HOST GLOBAL TABLE.

LOGSEL	- STRUCTURE FOR SELECTIVE LOGGING INFORMATION.. KEPT IN GLOBAL.
TBLAPT	- THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
TBLAPI	- THE AP-INFORMATION-TABLE; APC GLOBAL; USED FOR ROUTING.
TBLAPS	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLAUT	- THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
TBLACT	- PURPOSE.
TBLCLD	- THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
TBLGD	- THE GUARANTEED DELIVERY TABLE IN AN APC GLOBAL TABLE.
TBLCAT	- FORMAT FOR INITIAL APC DATA.
TBLMPR	- MESSAGE-PAIR-TABLE IS AN MPU LOCAL TABLE.
TBLDIR	- THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.
TBLAPO	- AP OPERATING INFORMATION TABLE IS MPU LOCAL; OVERFLOW SHARED.
APDFLG	- INDICATES IF ALL APS ON AP CLUSTER ARE DEAD.
TBLIAT	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
INIDAT	- FORMAT FOR INITIAL APC DATA.
SDDEF	- INDICATES THE TYPE OF SHUTDOWN THE APC IS IN.
NTMMSG	- PURPOSE.

ROUTINES CALLED:

PRCONC	- PROCESS MESSAGES FROM ON THE CLUSTER.
VYOFFC	- VERIFY MESSAGES FROM OFF THE CLUSTER.
RMVAST	- REMOVE ASTERIKS FROM MESSAGE HEADER.
LGMESG	- SEND A MESSAGE TO LOGTASK BASED ON LOGGING SELECTION.
GDMSGS	- PURPOSE NOT KNOWN - ACTIVE CODE.

CALLED DIRECTLY BY:

PRINPT	- PROCESS CLUSTER INPUT.

USED IN MAIN PROGRAM(S):

MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: MNGPRC
PURPOSE: MANAGE PROCESS.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: MNGPRC
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- BASED ON MSG CATEGORY, ROUTINES ARE CALLED TO PROCESS THE CURRENT MESSAGE.

ARGUMENTS:

DIRECTORY-TABLE = RECRD

INCLUDE FILES:

TBLDIR	- THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.
NTMMSG	- PURPOSE.
TBLAPT	- THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
TBLAPC	- THIS IS THE APC STATUS TABLE.... A HOST GLOBAL TABLE.
TBLAPI	- THE AP-INFORMATION-TABLE; APC GLOBAL; USED FOR ROUTING.
TBLAPO	- AP OPERATING INFORMATION TABLE IS MPU LOCAL; OVERFLOW SHARED.
TBLAPS	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLMPR	- MESSAGE-PAIR-TABLE IS AN MPU LOCAL TABLE.
TBLCLD	- THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
TBLIAT	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLGD	- THE GUARANTEED DELIVERY TABLE IN AN APC GLOBAL TABLE.
SDDEF	- INDICATES THE TYPE OF SHUTDOWN THE APC IS IN.
APDFLG	- INDICATES IF ALL APS ON AP CLUSTER ARE DEAD.
INIDAT	- FORMAT FOR INITIAL APC DATA.

ROUTINES CALLED:

APSTAT	- PROCESS AP STATUS MESSAGES.
PFINIT	- PERFORM AP INITIATION.
SYSCOM	- PROCESS SYSTEM COMMANDS.
DLVMSG	- DELIVER MESSAGE TO THE AP.

CALLED DIRECTLY BY:

GDMSGS	- PURPOSE NOT KNOWN - ACTIVE CODE.
RTESND	- ROUTE AND SEND A MESSAGE.

USED IN MAIN PROGRAM(S):

INICHK	- CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: MPRINI
PURPOSE: INITILIAZE THE MESSAGE PAIR TABLE.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: MPRINI
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

INITIALIZES THE MSG-PAIR-TABLE BY MOVING
SPACES TO THE ENTRIES. AS THIS IS A DYNAMIC TABLE,
THE SPACE MUST BE CLEAN. NOTE - FILES ARE NOT
ACCESSED AT ALL.

-

ARGUMENTS:

MSG-PAIR-TABLE = RECRD
RET-CODE =

INCLUDE FILES:

SYSERR - SYSTEM ERROR CODE DEFINITIONS.
TBLMPR - MESSAGE-PAIR-TABLE IS AN MPU LOCAL TABLE.

CALLED DIRECTLY BY:

TABPRC - PROCESS TABLE STATUS MESSAGE FROM MONITOR.

USED IN MAIN PROGRAM(S):

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT
POINT.

NTM/MPU Module Documentation

NAME: MPRTBL
PURPOSE: TABLE MANAGEMENT FUNCTION FOR THE MESSAGE PAIR TABLE.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: MPRTBL
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

-

ARGUMENTS:

MSG-PAIR-TABLE = RECRD

INCLUDE FILES:

FILERR - THE NTM QUEUE ERROR FILE.
SYSERR - SYSTEM ERROR CODE DEFINITIONS.
TBLMPR - MESSAGE-PAIR-TABLE IS AN MPU LOCAL TABLE.

CALLED DIRECTLY BY:

ADDPR - ADD ENTRY TO MESSAGE PAIR TABLE.
PAIRCK - CHECK MESSAGE PAIR TABLE FOR TIMED OUT MESSAGES.
RMVPR - SEARCH FOR MATCH IN MESSAGE PAIR TABLE THEN REMOVE IT.

USED IN MAIN PROGRAM(S):

INICHK - CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: MPUGEN
PURPOSE: PURPOSE NOT KNOWN - ACTIVE CODE.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: PROGRAM
SOURCE FILE: MPUGEN
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

INCLUDE FILES:

BASYSG - **** PURPOSE NOT FOUND BY STRIPPER ****

ROUTINES CALLED:

IISSYS
MTRGEN

NTM/MPU Module Documentation

NAME: MPUINF
PURPOSE: SUPPLY MPU INFORMATION TO MESSAGE HEADER.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: MPUINF
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- MPUINF GETS THE MESSAGE CATEGORY RECORD FROM THE MESSAGE CATEGORY TABLE AND INSERTS THE APPROPRIATE INFORMATION FROM THE RECORD INTO THE HEADER (E.G. MESSAGE PRIORITY,LOGGING REQUIREMENT, STATUS COLLECTION). THE DESTINATION APC NAME IS FILLED IN ACCORDING TO INFORMATION ON THE AP INFORMATION RECORD AND THE MSG SOURCE PRIORITY IS FILLED IN FROM INFORMATION ON THE AP CHAR TABLE. IF AN ERROR OCCURS, A MESSAGE IS SENT TO THE MONITR AP.

ARGUMENTS:

AP-CHAR-TABLE = RECRD

INCLUDE FILES:

SYSERR	- SYSTEM ERROR CODE DEFINITIONS.
SDSPDT	- PURPOSE.
TABDEF	- INPUT DEFINITIONS FOR TABLE ROUTINES.
SDMNDT	- PURPOSE.
APTBUF	- AP CHAR TABLE RECORD BUFFER.
APIBUF	- SPACES OR 0.
APSBUF	- THE AP STATUS TABLE ..... APC GLOBAL.
CATBUF	- THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
TBLCAT	- FORMAT FOR INITIAL APC DATA.
TBLAPT	- THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
TBLAPS	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLAPI	- THE AP-INFORMATION-TABLE; APC GLOBAL; USED FOR ROUTING.
INIDAT	- FORMAT FOR INITIAL APC DATA.
NTMMSG	- PURPOSE.

ROUTINES CALLED:

CATTBL	- TABLE MANAGEMENT FUNCTIONS FOR THE MESSAGE CATEGORY TABLE.
APITBL	- TABLE MANAGEMENT FUNCTIONS FOR THE AP ROUTING TABLE
APTTBL	- TABLE MANAGEMENT FUNCTIONS FOR THE AP CHARACTERISTIC TABLE.
SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.
SNDSAP	- SEND MESSAGE TO SOURCE AP.

CALLED DIRECTLY BY:

CMPHDR	- COMPLETE MESSAGE HEADER.

USED IN MAIN PROGRAM(S):

MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: MPUINI
PURPOSE: MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: PROGRAM
SOURCE FILE: MPUINI
SOURCE FILE TYPE: .COB
HOST: VAX
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- MPUINI READS THE INDIVIDUAL APC'S INITIAL APC DATA FROM THE SYSGEN FILE AND MAPS TO HOST AND APC TABLES. IT WILL THEN CALL "EXCMPU" TO CONTINUE APC STARTUP AND NORMAL PROCESSING. WHEN "EXCMPU" RETURNS CONTROL TO THIS PROGRAM IT WILL CLEAN-UP THEN STOP THE MPU.

INCLUDE FILES:

TBLHST	- THIS IS THE APC STATUS TABLE.... A HOST GLOBAL TABLE.
TBLAPC	- THIS IS THE APC STATUS TABLE.... A HOST GLOBAL TABLE.
TBLLST	- THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.
TBLLOG	- **** PURPOSE NOT FOUND BY STRIPPER ****
TBLCAT	- FORMAT FOR INITIAL APC DATA.
TBLDIR	- THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.
LOGSEL	- STRUCTURE FOR SELECTIVE LOGGING INFORMATION.. KEPT IN GLOBAL.
HSTGLE	- THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
TBLAPT	- THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
TBLAPI	- THE AP-INFORMATION-TABLE; APC GLOBAL; USED FOR ROUTING.
TBLAPS	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLGD	- THE GUARANTEED DELIVERY TABLE IN AN APC GLOBAL TABLE.
TBLAPO	- AP OPERATING INFORMATION TABLE IS MPU LOCAL; OVERFLOW SHARED.
TBLAUT	- THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
TBLACT	- PURPOSE.
TBLCLD	- THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
TBLIAT	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLMPR	- MESSAGE-PAIR-TABLE IS AN MPU LOCAL TABLE.
SYSERR	- SYSTEM ERROR CODE DEFINITIONS.

```
  INIDAT      - FORMAT FOR INITIAL APC DATA.
  SDMNDT      - PURPOSE.
  SDDEF       - INDICATES THE TYPE OF SHUTDOWN THE APC IS IN.
```

ROUTINES CALLED:

```
  GETNAM      - VAX PROCEDURE TO GET AP'S OS PROCESS NAME.
  SNDMON      - SEND MONITOR A STATUS MESSAGE VIA ITS APC.
  MAPHST      - MAP TO THE HOST TABLES.
  SNDMTR      - SEND LOCAL MONITOR A STATUS MESSAGE DIRECTLY
                      WITH LOGGING.
  EXCMPU      - EXECUTE MESSAGE PROCESSING UNIT.
  ENDRUN
```

NTM/MPU Module Documentation

NAME: OFFCLQ
PURPOSE: HANDLE MESSAGES FOR OFF CLUSTER.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: OFFCLQ
SOURCE FILE TYPE: .COB
HOST: VAX
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- PROCESS MESSAGES FOR OFF-APC IF APC IS AVAILABLE.

ARGUMENTS:

AP-CHAR-TABLE = RECRD

INCLUDE FILES:

CANDEF	- DEFINITIONS OF DATA PORTION OF CANNED MESSAGES.
CANMSG	- CANNED FORMAT FOR MESSAGE.
FILERR	- THE NTM QUEUE ERROR FILE.
SYSERR	- SYSTEM ERROR CODE DEFINITIONS.
SDMNDT	- PURPOSE.
DLVMBX	- 28 JAN 84 : CHANGES FOR LONGER AP NAME
MBXNME	- APC INPUT MAILBOX NAME FORMAT.
CHKSTS	- CHKSTS.INC -- CHECK STATUS
DLVEVB	- EVENT BLOCK DEFINITIONS FOR DELIVERING A MESSAGE.
TABDEF	- INPUT DEFINITIONS FOR TABLE ROUTINES.
GDAPGS	-
TBLAPT	- THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
TBLAPC	- THIS IS THE APC STATUS TABLE.... A HOST GLOBAL TABLE.
TBLGD	- THE GUARANTEED DELIVERY TABLE IN AN APC GLOBAL TABLE.
TBLAPO	- AP OPERATING INFORMATION TABLE IS MPU LOCAL; OVERFLOW SHARED.
TBLAPI	- THE AP-INFORMATION-TABLE; APC GLOBAL; USED FOR ROUTING.
TBLIAT	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLMPR	- MESSAGE-PAIR-TABLE IS AN MPU LOCAL TABLE.
TBLCLD	- THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
TBLDIR	- THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.
TBLAPS	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.

SDDEF	- INDICATES THE TYPE OF SHUTDOWN THE APC IS IN.
APDFLG	- INDICATES IF ALL APS ON AP CLUSTER ARE DEAD.
NTMMSG	- PURPOSE.
INIDAT	- FORMAT FOR INITIAL APC DATA.
APCBUF	- SPACES OR 0, EXCEPT FOR RSTAT WHICH IS INITALIZED
WRTMSG	- **********

ROUTINES CALLED:

SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.
SNDMSG	
RELEVB	
APCTBL	- TABLE MANAGEMENT FUNCTIONS FOR THE AP CLUSTER STATUS TABLE.
GDMSGS	- PURPOSE NOT KNOWN - ACTIVE CODE.
SNDCAN	- SEND CANNED MESSAGE TO AP.

CALLED DIRECTLY BY:

RTESND	- ROUTE AND SEND A MESSAGE.
TIMCHK	- TIME CHECKER.

USED IN MAIN PROGRAM(S):

MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: OUTGDM
PURPOSE: PURPOSE NOT KNOWN - STUBBED OUT.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: OUTGDM
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

-

ARGUMENTS:

MSGBUF = DSPLY [X(2000)]

INCLUDE FILES:

INIDAT - FORMAT FOR INITIAL APC DATA.

NTM/MPU Module Documentation

NAME: PADZER
PURPOSE: CONVERT BINARY FIELD TO A CHARACTER FIELD AND PAD WITH ZERO
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: PADZER
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- CONVERT THE INPUT BINARY FIELD TO A CHARACTER FIELD AND PAD WITH ZEROS IF NECESSARY. RETURN THE (PADDED) CHARACTER FIELD TO THE CALLING PROGRAM.

ARGUMENTS:

INPUT-COMP =

CALLED DIRECTLY BY:

ADDPR - ADD ENTRY TO MESSAGE PAIR TABLE.
PAIRCK - CHECK MESSAGE PAIR TABLE FOR TIMED OUT MESSAGES.

USED IN MAIN PROGRAM(S):

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: PAIRCK
PURPOSE: CHECK MESSAGE PAIR TABLE FOR TIMED OUT MESSAGES.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: PAIRCK
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- ENTRIES FROM THE PAIR TABLE ARE READ IN ONE AT A TIME AND PROCESSED. IF THE TIME SPECIFIED ON THE ENTRY IS EARLIER THAN THE CURRENT SYSTEM TIME, THEN THE ENTRY IS DELETED AND AN TIMEOUT ERROR MESSAGE IS SENT TO THE MONITR AP. OTHERWISE,THE ENTRY IS LEFT AS IS IN THE TABLE.

ARGUMENTS:

MSG-PAIR-TABLE = RECRD

INCLUDE FILES:

SYSERR	- SYSTEM ERROR CODE DEFINITIONS.
TOMSG	- MODIFIED 1/30/84 FOR EXPANDED AP NAME
SDMNDT	- PURPOSE.
TABDEF	- INPUT DEFINITIONS FOR TABLE ROUTINES.
MPRBUF	- MESSAGE-PAIR-TABLE IS AN MPU LOCAL TABLE.
TBLDEF	-
INIDAT	- FORMAT FOR INITIAL APC DATA.
TBLMPR	- MESSAGE-PAIR-TABLE IS AN MPU LOCAL TABLE.

ROUTINES CALLED:

GETTIM	
PADZER	- CONVERT BINARY FIELD TO A CHARACTER FIELD AND PAD WITH ZEROS.
MPRTBL	- TABLE MANAGEMENT FUNCTION FOR THE MESSAGE PAIR TABLE.
VIAOWN	- SEND MESSAGE VIA OWN APC INPUT MAILBOX.
SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.

CALLED DIRECTLY BY:

TIMCHK - TIME CHECKER.

USED IN MAIN PROGRAM(S):

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: PFINIT
PURPOSE: PERFORM AP INITIATION.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: PFINIT
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- AP STATUS TABLE IS CHECKD TO SEE IF ANY INSTANCES OF THE AP ALREADY EXIST WITH THE STATUS "AWAITING INIT". IF ONE IS FOUND THEN THE AWAIT INIT IS PROCESSED, OTHERWISE THE AP INFO TABLE IS ACCESSED TO ATTAIN THE NUMBER OF INSTANCES ALREADY INITIATED.

ARGUMENTS:

DIRECTORY-TABLE = RECRD

INCLUDE FILES:

CANDEF	- DEFINITIONS OF DATA PORTION OF CANNED MESSAGES.
CANMSG	- CANNED FORMAT FOR MESSAGE.
SDMNDT	- PURPOSE.
SYSERR	- SYSTEM ERROR CODE DEFINITIONS.
TABDEF	- INPUT DEFINITIONS FOR TABLE ROUTINES.
APOBUF	- AP OPERATING INFO RECORD.
APTBUF	- AP CHAR TABLE RECORD BUFFER.
APSBUF	- THE AP STATUS TABLE ..... APC GLOBAL.
TBLDIR	- THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.
TBLAPT	- THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
TBLAPC	- THIS IS THE APC STATUS TABLE.... A HOST GLOBAL TABLE.
NTMMSG	- PURPOSE.
TBLAPO	- AP OPERATING INFORMATION TABLE IS MPU LOCAL; OVERFLOW SHARED.
TBLAPS	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLIAT	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLMPR	- MESSAGE-PAIR-TABLE IS AN MPU LOCAL TABLE.
TBLGD	- THE GUARANTEED DELIVERY TABLE IN AN APC GLOBAL TABLE.
TBLAPI	- THE AP-INFORMATION-TABLE; APC GLOBAL; USED FOR ROUTING.
TBLCLD	- THE CHILD-TABLE IS AN MPU-LOCAL TABLE.

SDDEF	- INDICATES THE TYPE OF SHUTDOWN THE APC IS IN.
APDFLG	- INDICATES IF ALL APS ON AP CLUSTER ARE DEAD.
INIDAT	- FORMAT FOR INITIAL APC DATA.

ROUTINES CALLED:

APTTBL	- TABLE MANAGEMENT FUNCTIONS FOR THE AP CHARACTERISTIC TABLE.
DLVMSG	- DELIVER MESSAGE TO THE AP.
APOTBL	- TABLE MANAGEMENT FUNCTION FOR THE AP OPERATING TABLE.
INITAP	- INITIATE THE APPLICATION PROCESS.
APSTBL	- TABLE MANAGEMENT FUNCTIONS AP STATUS TABLE.
PRINIT	- PROCESS AP INITIATION MESSAGE.
SNDCSM	- SEND CHILD STATUS MESSAGE TO PARENT AP.
SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.
SNDCAN	- SEND CANNED MESSAGE TO AP.

CALLED DIRECTLY BY:

DLVMSG	- DELIVER MESSAGE TO THE AP.
INICHK	- CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MNGPRC	- MANAGE PROCESS.
WTINIT	- CHECK WAIT-FOR-INIT QUEUE FOR INIT MESSAGES FOR A GIVEN AP.

USED IN MAIN PROGRAM(S):

INICHK	- CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: POSAUT
PURPOSE: CHECK IF AUTH RESTRICTION ON THE DEST AP.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: POSAUT
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- LOOK UP DEST AP IN AUTHORITY CHECK TABLE
TO SEE IF THE AP HAS AUTHORIZATION RESTRICTIONS ON IT.
IF SO, CALL A ROUTINE TO AUTHORIZE THE MSG ELSE EXIT
THE PROGRAM.

ARGUMENTS:

AP-CHAR-TABLE = RECRD

INCLUDE FILES:

SDSPDT	- PURPOSE.
SDMNDT	- PURPOSE.
ACTBUF	- INPUT DEFINITIONS FOR TABLE ROUTINES.
TABDEF	- INPUT DEFINITIONS FOR TABLE ROUTINES.
TBLAPT	- THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
TBLACT	- PURPOSE.
NTMMSG	- PURPOSE.
TBLAUT	- THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
INIDAT	- FORMAT FOR INITIAL APC DATA.

ROUTINES CALLED:

ACTTBL	- TABLE MANAGEMENT FUNCTIONS FOR THE AUTHORITY CHECK TABLE
AUTMSG	- AUTHORITY TABLE CHECK TO SEE IF MESSAGE CAN BE SENT.
SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.
SNDSAP	- SEND MESSAGE TO SOURCE AP.

CALLED DIRECTLY BY:

PRCONC	- PROCESS MESSAGES FROM ON THE CLUSTER.

USED IN MAIN PROGRAM(S):

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: PRCONC
PURPOSE: PROCESS MESSAGES FROM ON THE CLUSTER.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: PRCONC
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- PRCONC PROCESSES MESSAGES IF THEY ARE FROM ON THE APC. MESSAGES WITH NEW HEADERS THAT ARE NOT SENT BY THE MPU HAVE THEIR MSG CATEGORIES VERIFIED. IF THE CATEGORY IS VALID, THE MESSAGE IS AUTHORIZED AND THE MESSAGE HEADER IS COMPLETED. CERTAIN MESSAGES HAVE SPECIAL TABLE PROCESSING DONE SUCH AS PAIRED MESSAGES,INIT MESSAGES AND GUAR-ANTEED DELIVERY MESSAGES. IF AT ANY POINT A MESSAGE ERROR OCCURS, A MESSAGE "NACK" IS SENT TO THE SOURCE OF THE MESSAGE OTHERWISE AN ACK IS SENT(UNDER CERTAIN CONDITIONS) AND A SERIAL NUMBER IS ATTACHED TO THE MESSAGE. IF THE MESSAGE HAS AN OLD HEADER OR IS FROM THE MPU, THE MPU SIMPLY ATTACHES A SERIAL NUMBER TO IT AND ALL OTHER VERIFICATION IS BY-PASSED.

ARGUMENTS:

AP-CHAR-TABLE = RECRD
AP-INFO-TABLE = RECRD
AP-OP-INFO-TABLE = RECRD
AP-STATUS-TABLE = RECRD
AUTH-CHECK-TABLE = RECRD
AUTHORITY-TABLE = RECRD
CHILD-TABLE = RECRD
GUAR-DEL-TABLE = RECRD
MESSAGE-CATEGORY-TABLE = RECRD
MSG-PAIR-TABLE = RECRD
DIRECTORY-TABLE = RECRD
AP-CLUSTER-STATUS-TABLE = RECRD
IM-ALIVE-TABLE = RECRD
SDFLG = DSPLY [X]
AP-DEAD-FLG =
NTM-MESSAGE = RECRD
ERRCODE =
IDATA = RECRD
LOG-SELECT-STR = RECRD

INCLUDE FILES:

SYSERR	- SYSTEM ERROR CODE DEFINITIONS.
TABDEF	- INPUT DEFINITIONS FOR TABLE ROUTINES.
SDMNDT	- PURPOSE.
APSBUF	- THE AP STATUS TABLE ..... APC GLOBAL.
APIBUF	- SPACES OR 0.
SDSPDT	- PURPOSE.
GDARGS	-
NTMMSG	- PURPOSE.
INIDAT	- FORMAT FOR INITIAL APC DATA.
TBLAPT	- THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
LOGSEL	- STRUCTURE FOR SELECTIVE LOGGING INFORMATION.. KEPT IN GLOBAL.
TBLAPI	- THE AP-INFORMATION-TABLE; APC GLOBAL; USED FOR ROUTING.
TBLAPS	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLAPO	- AP OPERATING INFORMATION TABLE IS MPU LOCAL; OVERFLOW SHARED.
TBLAUT	- THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
TBLACT	- PURPOSE.
TBLCLD	- THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
TBLGD	- THE GUARANTEED DELIVERY TABLE IN AN APC GLOBAL TABLE.
TBLCAT	- FORMAT FOR INITIAL APC DATA.
TBLMPR	- MESSAGE-PAIR-TABLE IS AN MPU LOCAL TABLE.
TBLDIR	- THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.
TBLIAT	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLAPC	- *THIS IS THE APC STATUS TABLE.... A HOST GLOBAL* TABLE.
SDDEF	- INDICATES THE TYPE OF SHUTDOWN THE APC IS IN.
APDFLG	- INDICATES IF ALL APS ON AP CLUSTER ARE DEAD.

ROUTINES CALLED:

VMSGCT	- VERIFY MESSAGE CATEGORY.
POSAUT	- CHECK IF AUTH RESTRICTION ON THE DEST AP.
CMPHDR	- COMPLETE MESSAGE HEADER.
GENSER	- GENERATE MESSAGE SERIAL NUMBER.
ADDPR	- ADD ENTRY TO MESSAGE PAIR TABLE.
APITBL	- TABLE MANAGEMENT FUNCTIONS FOR THE AP ROUTING TABLE
CHDPRC	- CHILD TABLE PROCESSING.
APSTBL	- TABLE MANAGEMENT FUNCTIONS AP STATUS TABLE.
GDMSGS	- PURPOSE NOT KNOWN - ACTIVE CODE.
SNDSAP	- SEND MESSAGE TO SOURCE AP.
SNDMTR	- SEND LOCAL MONITOR A STATUS MESSAGE DIRECTLY WITH LOGGING.
SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.

CALLED DIRECTLY BY:

MNGMSG	- MANAGE MESSSAGE.

USED IN MAIN PROGRAM(S):

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: PRGDAK
PURPOSE: PURPOSE NOT KNOWN - STUBBED OUT.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: PRGDAK
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

-

ARGUMENTS:

MSGBUF =

NTM/MPU Module Documentation

NAME: PRINIT
PURPOSE: PROCESS AP INITIATION MESSAGE.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: PRINIT
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- THE CURRENT NUMBER OF CONNECTIONS ON EACH AP IS COMPARED TO THE MAX NUMBER OF CONNECTIONS ALLOWED. IF ONE INSTANCE OF THE AP HAS < MAX NUMBER OF CONNS THEN A NEW CONN WILL BE MADE TO THAT AP OTHERWISE A NEW INSTANCE OF THE AP MUST BE INITIATED (IF MAX # OF INSTANCES HAS NOT BEEN REACHED). IN THE CASE WHERE MAX NUMBER OF INSTANCES OF AP HAVE BEEN INITIATED AND ALL HAVE REACHED THE MAX NUMBER OF CONNS, THE MSG WILL BE QUEUED (IF MAX NUMBER OF QUEUED MSGS HAS NOT BEEN REACHED).

ARGUMENTS:

DIRECTORY-TABLE = RECRD
AP-CHAR-TABLE = RECRD
AP-CLUSTER-STATUS-TABLE = RECRD
AP-OP-INFO-TABLE = RECRD
AP-STATUS-TABLE = RECRD
IM-ALIVE-TABLE = RECRD
MSG-PAIR-TABLE = RECRD
GUAR-DEL-TABLE = RECRD
CHILD-TABLE = RECRD
AP-INFO-TABLE = RECRD
SDFLG = DSPLY [X]
AP-DEAD-FLG =
NTM-MESSAGE = RECRD
APO-BUF = RECRD
APT-BUF = RECRD
APO-INDX =
IDATA = RECRD

INCLUDE FILES:

CANDEF - DEFINITIONS OF DATA PORTION OF CANNED MESSAGES.
CANMSG - CANNED FORMAT FOR MESSAGE.
SDSPDT - PURPOSE.
SDMNDT - PURPOSE.

APSBUF	- THE AP STATUS TABLE ..... APC GLOBAL.
TABDEF	- INPUT DEFINITIONS FOR TABLE ROUTINES.
SYSERR	- SYSTEM ERROR CODE DEFINITIONS.
TBLDIR	- THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.
TBLAPT	- THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
TBLAPC	- THIS IS THE APC STATUS TABLE.... A HOST GLOBAL TABLE.
TBLAPO	- AP OPERATING INFORMATION TABLE IS MPU LOCAL; OVERFLOW SHARED.
TBLAPS	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLIAT	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLMPR	- MESSAGE-PAIR-TABLE IS AN MPU LOCAL TABLE.
TBLGD	- THE GUARANTEED DELIVERY TABLE IN AN APC GLOBAL TABLE.
TBLCLD	- THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
TBLAPI	- THE AP-INFORMATION-TABLE; APC GLOBAL; USED FOR ROUTING.
SDDEF	- INDICATES THE TYPE OF SHUTDOWN THE APC IS IN.
APDFLG	- INDICATES IF ALL APS ON AP CLUSTER ARE DEAD.
NTMMSG	- PURPOSE.
INIDAT	- FORMAT FOR INITIAL APC DATA.
APOBUF	- AP OPERATING INFO RECORD.
APTBUF	- AP CHAR TABLE RECORD BUFFER.

ROUTINES CALLED:

APSTBL	- TABLE MANAGEMENT FUNCTIONS AP STATUS TABLE.
DLVMSG	- DELIVER MESSAGE TO THE AP.
INITAP	- INITIATE THE APPLICATION PROCESS.
QWTINI	- WRITE INIT MESSAGES THAT CANNOT BE HANDLED NOW TO A WAIT QUEUE
SNDSAP	- SEND MESSAGE TO SOURCE AP.
SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.
SNDCAN	- SEND CANNED MESSAGE TO AP.

CALLED DIRECTLY BY:

PFINIT	- PERFORM AP INITIATION.

USED IN MAIN PROGRAM(S):

INICHK	- CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: PRINPT
PURPOSE: PROCESS CLUSTER INPUT.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: PRINPT
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- IF APC IS NOT IN A SHUTDOWN MODE, THE MPU WILL WAIT ON EVENTS AND HANDLE THE APC INPUT. THREE EVENTS ARE WAITED FOR: TIME TIMEOUT, MSG IN HI-PRIORITY MBX AND LOW-PRIORITY MBX.
WHEN A MBX EVENT TAKES PLACE, THE MSG IS READ AND PROCESSED VIA MANAGE MESSAGE AND THEN (IF NO ERROR) THE MSG IS ROUTED AND SENT. IF THE TIMER EVENT TAKES PLACE, A PROCESS IS CALLED TO CHECK THE CERTAIN QUEUES AND TABLES FOR CERTAIN CONDITIONS. IF THE APC IS IN A SHUTDOWN MODE, EVENTS ARE NOT WAITED FOR BUT THE MBXS ARE CHECKED FOR MSGS.
THE MSGS ARE READ AND PROCESSED BY A SPECIAL "SHUTDOWN MODE" PROCESS. ONLY AP STATUS MSGS AND SYSTEM COMMANDS WILL GO ON TO BE PROCESSED BY MM AND ROUTE & SEND.

ARGUMENTS:

DIRECTORY-TABLE = RECRD
LOG-SELECT-STR = RECRD
AP-CHAR-TABLE = RECRD
AP-CLUSTER-STATUS-TABLE = RECRD
AP-INFO-TABLE = RECRD
AP-OP-INFO-TABLE = RECRD
AP-STATUS-TABLE = RECRD
AUTH-CHECK-TABLE = RECRD
AUTHORITY-TABLE = RECRD
CHILD-TABLE = RECRD
GUAR-DEL-TABLE = RECRD
IM-ALIVE-TABLE = RECRD
MESSAGE-CATEGORY-TABLE = RECRD
MSG-PAIR-TABLE = RECRD
IDATA = RECRD
SDFLG = DSPLY [X]
APCFLG =
AP-DEAD-FLG =
ERRCODE =
H-MBX-EV-BLK = DSPLY [X(2032)]

```
  C-MBX-EV-BLK = DSPLY [X(2032)]
  TIMER-EV-BLK = DSPLY [X(80)]
  NTM-MESSAGE = RECRD
  MBX-FLGS =
```

INCLUDE FILES:

CHKSTS	- CHKSTS.INC -- CHECK STATUS
SDMNDT	- PURPOSE.
MBXNME	- APC INPUT MAILBOX NAME FORMAT.
STEVB	- START UP DEFINITIONS.
SYSERR	- SYSTEM ERROR CODE DEFINITIONS.
TBLDIR	- THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.
LOGSEL	- STRUCTURE FOR SELECTIVE LOGGING INFORMATION.. KEPT IN GLOBAL.
TBLAPT	- THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
TBLAPC	- THIS IS THE APC STATUS TABLE.... A HOST GLOBAL TABLE.
TBLAPI	- THE AP-INFORMATION-TABLE; APC GLOBAL; USED FOR ROUTING.
TBLAPO	- AP OPERATING INFORMATION TABLE IS MPU LOCAL; OVERFLOW SHARED.
TBLAPS	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLACT	- PURPOSE.
TBLAUT	- THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
TBLCLD	- THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
TBLGD	- THE GUARANTEED DELIVERY TABLE IN AN APC GLOBAL TABLE.
TBLIAT	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLCAT	- FORMAT FOR INITIAL APC DATA.
TBLMPR	- MESSAGE-PAIR-TABLE IS AN MPU LOCAL TABLE.
INPEVB	- MPU'S MAIN PROCESSING EVENT BLOCKS--- ONE FOR THE APC HOT
NTMMSG	- PURPOSE.
APDFLG	- INDICATES IF ALL APS ON AP CLUSTER ARE DEAD.
INIDAT	- FORMAT FOR INITIAL APC DATA.
SDDEF	- INDICATES THE TYPE OF SHUTDOWN THE APC IS IN.

ROUTINES CALLED:

SDMODE	- SHUTDOWN MODE PROCESSING.
MNGMSG	- MANAGE MESSSAGE.
RTESND	- ROUTE AND SEND A MESSAGE.
SETTIM	
RCVMSG	
WAIT03	
SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.
TIMCHK	- TIME CHECKER.
CNLTIM	
GETMSG	

CALLED DIRECTLY BY:

EXCMPU	- EXECUTE MESSAGE PROCESSING UNIT.

USED IN MAIN PROGRAM(S):

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: QWTINI
PURPOSE: WRITE INIT MESSAGES THAT CANNOT BE HANDLED NOW TO A WAIT QU
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: QWTINI
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- INIT MESSAGES THAT CANNOT BE PROCESSED IMMEDIATELY DUE TO THE LIMITATIONS ON NUMBER OF INSTANCES ALLOWED ARE WRITTEN TO THE WAIT-INIT QUEUE FOR LATER PROCESSING
UPDATED JUN 9

ARGUMENTS:

NTM-MESSAGE = RECRD

INCLUDE FILES:

WTINIQ	- MODIFIED 10/08/84 ADD SUPPORT FOR IBM IISS NODE BCS APM
WTIQFD	- MODIFIED 10/08/84 ADDED SUPPORT FOR IBM NODE BCS APM
WTIQST	- MODIFIED 10/08/84 ADDED SUPPORT FOR IBM NODE BCS APM
SDMNDT	- PURPOSE.
SYSERR	- SYSTEM ERROR CODE DEFINITIONS.
NTMMSG	- PURPOSE.
INIDAT	- FORMAT FOR INITIAL APC DATA.
OPQINI	- MODIFIED 10/08/84 MODIFIED FOR IBM SUPPORT APM
WRTINI	- MODIFIED 10/08/84 MODIFIED FOR IBM SUPPORT BCS APM
CLQINI	- MODIFIED 10/08/84 ADDED SUPPORT FOR IBM NODE BCS APM

ROUTINES CALLED:

SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.

CALLED DIRECTLY BY:

PRINIT	- PROCESS AP INITIATION MESSAGE.

USED IN MAIN PROGRAM(S):

INICHK	- CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: RANDIN
PURPOSE: PROVIDE A RANDOM NUMBER FOR THE NTM TABLE ROUTINES.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: RANDIN
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

-

ARGUMENTS:

FLOAT-VALUE =

CALLED DIRECTLY BY:

ACTTBL	- TABLE MANAGEMENT FUNCTIONS FOR THE AUTHORITY CHECK TABLE
APITBL	- TABLE MANAGEMENT FUNCTIONS FOR THE AP ROUTING TABLE
APTTBL	- TABLE MANAGEMENT FUNCTIONS FOR THE AP CHARACTERISTIC TABLE.
AUTTBL	- TABLE MANAGEMENT FUNCTIONS FOR THE AUTHORITY CHECK TABLE.
GRDTBL	- TABLE MANAGEMENT FUNCTIONS FOR THE GUARANTEED DELIVERY TABLE.

USED IN MAIN PROGRAM(S):

AUTTBL	- TABLE MANAGEMENT FUNCTIONS FOR THE AUTHORITY CHECK TABLE.
INICHK	- CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: RMVAST
PURPOSE: REMOVE ASTERIKS FROM MESSAGE HEADER.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: RMVAST
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- IF SOURCE OF MESSAGE IS OFF-HOST THEN
LOOK AT EACH CHARACTER IN THE MESSAGE
AND REMOVE ANY ASTERISKS.

ARGUMENTS:

AP-CLUSTER-STATUS-TABLE = RECRD

INCLUDE FILES:

SDMNDT	- PURPOSE.
TABDEF	- INPUT DEFINITIONS FOR TABLE ROUTINES.
APCBUF	- SPACES OR 0, EXCEPT FOR RSTAT WHICH IS INITALIZED
INIDAT	- FORMAT FOR INITIAL APC DATA.
TBLAPC	- THIS IS THE APC STATUS TABLE.... A HOST GLOBAL TABLE.
NTMMSG	- PURPOSE.

ROUTINES CALLED:

APCTBL	- TABLE MANAGEMENT FUNCTIONS FOR THE AP CLUSTER STATUS TABLE.
SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.

CALLED DIRECTLY BY:

MNGMSG	- MANAGE MESSSAGE.

USED IN MAIN PROGRAM(S):

MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: RMVPR
PURPOSE: SEARCH FOR MATCH IN MESSAGE PAIR TABLE
THEN REMOVE IT.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: RMVPR
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- LOOK FOR MATCH IN PAIR TABLE BY
MATCHING THE MSG DEST TO THE SRC FIELD IN THE TABLE
AND THE MSG CHAN TO THE TABLE CHAN. IF THAT
DOES NOT WORK THEN MATCH THE ORIG SRC TO THE
SRC IN THE TABLE AND MATCH THE CHANNEL NUMBERS

ARGUMENTS:

MSG-PAIR-TABLE = RECRD
NTM-MESSAGE = RECRD
RETURNCODE =
IDATA = RECRD

INCLUDE FILES:

SDMNDT - PURPOSE.
TABDEF - INPUT DEFINITIONS FOR TABLE ROUTINES.
MPRBUF - MESSAGE-PAIR-TABLE IS AN MPU LOCAL TABLE.
TBLMPR - MESSAGE-PAIR-TABLE IS AN MPU LOCAL TABLE.
INIDAT - FORMAT FOR INITIAL APC DATA.
NTMMSG - PURPOSE.

ROUTINES CALLED:

MPRTBL - TABLE MANAGEMENT FUNCTION FOR THE MESSAGE PAIR TABLE.
SNDMON - SEND MONITOR A STATUS MESSAGE VIA ITS APC.

CALLED DIRECTLY BY:

DLVMSG - DELIVER MESSAGE TO THE AP.

USED IN MAIN PROGRAM(S):

INICHK	- CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: RTESND
PURPOSE: ROUTE AND SEND A MESSAGE.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: RTESND
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- MSGS TO ON THE APC ARE PROCESSED BY A SUBROUTINE CALL TO MNGPRC (MANAGE PROCESS). MSGS TO OF APC ARE ROUTED TO THE DESTINATION APC. MSGS TO OFF-HOST ARE ROUTED TO THE COMM APC. THE MESSAGES TO OFF-HOST OR OFF-APC ARE PROCESSED ACCORDING TO THE STATUS OF THAT APC (OFFCLQ).

ARGUMENTS:

DIRECTORY-TABLE = RECRD

INCLUDE FILES:

CANDEF	- DEFINITIONS OF DATA PORTION OF CANNED MESSAGES.
CANMSG	- CANNED FORMAT FOR MESSAGE.
APCBUF	- SPACES OR 0, EXCEPT FOR RSTAT WHICH IS INITALIZED
SDMNDT	- PURPOSE.
SYSERR	- SYSTEM ERROR CODE DEFINITIONS.
TABDEF	- INPUT DEFINITIONS FOR TABLE ROUTINES.
TBLDIR	- THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.
TBLAPT	- THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
TBLAPC	- THIS IS THE APC STATUS TABLE.... A HOST GLOBAL TABLE.
NTMMSG	- PURPOSE.
TBLAPI	- THE AP-INFORMATION-TABLE; APC GLOBAL; USED FOR ROUTING.
TBLAPO	- AP OPERATING INFORMATION TABLE IS MPU LOCAL; OVERFLOW SHARED.
TBLAPS	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLCLD	- THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
TBLIAT	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLMPR	- MESSAGE-PAIR-TABLE IS AN MPU LOCAL TABLE.
TBLGD	- THE GUARANTEED DELIVERY TABLE IN AN APC GLOBAL TABLE.

SDDEF	- INDICATES THE TYPE OF SHUTDOWN THE APC IS IN.
APDFLG	- INDICATES IF ALL APS ON AP CLUSTER ARE DEAD.
INIDAT	- FORMAT FOR INITIAL APC DATA.

ROUTINES CALLED:

MNGPRC	- MANAGE PROCESS.
APCTBL	- TABLE MANAGEMENT FUNCTIONS FOR THE AP CLUSTER STATUS TABLE.
OFFCLQ	- HANDLE MESSAGES FOR OFF CLUSTER.
DLVMSG	- DELIVER MESSAGE TO THE AP.
SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.
SNDCAN	- SEND CANNED MESSAGE TO AP.

CALLED DIRECTLY BY:

PRINPT	- PROCESS CLUSTER INPUT.

USED IN MAIN PROGRAM(S):

MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: SAVEQS
PURPOSE: PURPOSE NOT KNOWN - STUBBED OUT.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: PROGRAM
SOURCE FILE: SAVEQS
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

-

CALLED DIRECTLY BY:

TRMAPC - TERMINATE THE AP CLUSTER.

USED IN MAIN PROGRAM(S):

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: SDKIDS
PURPOSE: SEND SHUTDOWN MESSAGES TO CHILD APS.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: SDKIDS
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

SEND MESSAGES TO
SHUTDOWN CHILDREN OF AP'S RESIDING ON
AN APC THAT IS SHUTTING DOWN

ARGUMENTS:

AP-CHAR-TABLE = RECRD

INCLUDE FILES:

CANDEF	- DEFINITIONS OF DATA PORTION OF CANNED MESSAGES.
CANMSG	- CANNED FORMAT FOR MESSAGE.
SDMNDT	- PURPOSE.
CHKSTS	- CHKSTS.INC -- CHECK STATUS
SDKIDM	- 28 jan 84 : changes for longer ap name
SYSERR	- SYSTEM ERROR CODE DEFINITIONS.
TABDEF	- INPUT DEFINITIONS FOR TABLE ROUTINES.
CLDBUF	- SPACES OR 0.
TBLAPT	- THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
TBLCLD	- THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
INIDAT	- FORMAT FOR INITIAL APC DATA.

ROUTINES CALLED:

CLDTBL	- TABLE MANAGEMENT FUNCTIONS FOR THE CHILD TABLE.
VIAOWN	- SEND MESSAGE VIA OWN APC INPUT MAILBOX.
SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.
SNDCAN	- SEND CANNED MESSAGE TO AP.

CALLED DIRECTLY BY:

SHTAPC	- SHUTDOWN THE AP CLUSTER.

USED IN MAIN PROGRAM(S):

INICHK	- CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: SDMODE
PURPOSE: SHUTDOWN MODE PROCESSING.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: SDMODE
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- IF MSG IS BLANK AND APDEADFLAG SIGNALS THAT ALL APS ARE DEAD, THEN APCFLG IS SET TO 0 (GO DOWN); ELSE IF MSG IS NOT BLANK, IT WILL BE PROCESSED ACCORDINGLY:

IF MSG IS A SYSTEM COMMAND OR AN APSTATUS MSG, IT WILL BE PROCESSED NORMALLY THRU NTM

IF MSG IS A GD MSG, IT WILL BE LOGGED AND THEN IGNORED.

ALL OTHER MSGS ARE WRITTEN TO ERRORLOG AND IGNORED.

ARGUMENTS:

AP-OP-INFO-TABLE = RECRD
AP-STATUS-TABLE = RECRD
SDFLG = DSPLY [X]
NTM-MESSAGE = RECRD
IDATA = RECRD
AP-DEAD-FLG =
APCFLG =
ERRCODE =

INCLUDE FILES:

TBLAPS - IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
SDDEF - INDICATES THE TYPE OF SHUTDOWN THE APC IS IN.
INIDAT - FORMAT FOR INITIAL APC DATA.
APDFLG - INDICATES IF ALL APS ON AP CLUSTER ARE DEAD.
TBLAPO - AP OPERATING INFORMATION TABLE IS MPU LOCAL; OVERFLOW SHARED.
NTMMSG - PURPOSE.

ROUTINES CALLED:

ALDEAD - CHECK IF ALL APS ON APC ARE DEAD

CALLED DIRECTLY BY:

PRINPT - PROCESS CLUSTER INPUT.

USED IN MAIN PROGRAM(S):

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: SDPEND
PURPOSE: PROCESS SHUT DOWN PENDING MSG ON UI APC.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: SDPEND
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- THE SHUTDOWN PENDING MESSAGE IS SENT TO EACH UI AP SO THAT THE AP MAY INFORM THE USER HOW MUCH LONGER TO SHUTDOWN. THIS MESSAGE SHOULD ONLY BE SENT TO THE UI AP CLUSTER FROM THE MONITR AP.

ARGUMENTS:

AP-CHAR-TABLE = RECRD

INCLUDE FILES:

TABDEF	- INPUT DEFINITIONS FOR TABLE ROUTINES.
SDMNDT	- PURPOSE.
APSBUF	- THE AP STATUS TABLE ..... APC GLOBAL.
INIDAT	- FORMAT FOR INITIAL APC DATA.
NTMMSG	- PURPOSE.
TBLAPT	- THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
TBLAPC	- THIS IS THE APC STATUS TABLE.... A HOST GLOBAL TABLE.
TBLAPS	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLMPR	- MESSAGE-PAIR-TABLE IS AN MPU LOCAL TABLE.
TBLGD	- THE GUARANTEED DELIVERY TABLE IN AN APC GLOBAL TABLE.
TBLDIR	- THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.
TBLAPO	- AP OPERATING INFORMATION TABLE IS MPU LOCAL; OVERFLOW SHARED.
TBLAPI	- THE AP-INFORMATION-TABLE; APC GLOBAL; USED FOR ROUTING.
TBLCLD	- THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
TBLIAT	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
SDDEF	- INDICATES THE TYPE OF SHUTDOWN THE APC IS IN.
APDFLG	- INDICATES IF ALL APS ON AP CLUSTER ARE DEAD.

ROUTINES CALLED:

APSTBL	- TABLE MANAGEMENT FUNCTIONS AP STATUS TABLE.
DLVMSG	- DELIVER MESSAGE TO THE AP.
SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.

CALLED DIRECTLY BY:

SYSCOM	- PROCESS SYSTEM COMMANDS.

USED IN MAIN PROGRAM(S):

INICHK	- CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: SENDAP
PURPOSE: HANDLE MESSAGES FOR APS ON CLUSTER.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: SENDAP
SOURCE FILE TYPE: .COB
HOST: VAX
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- PROCESS MESSAGES FOR APs ON-APC

ARGUMENTS:

NTM-MESSAGE = RECRD

INCLUDE FILES:

FILERR	- THE NTM QUEUE ERROR FILE.
APTBUF	- AP CHAR TABLE RECORD BUFFER.
SYSERR	- SYSTEM ERROR CODE DEFINITIONS.
SDMNDT	- PURPOSE.
DLVMBX	- 28 JAN 84 : CHANGES FOR LONGER AP NAME
MBXNME	- APC INPUT MAILBOX NAME FORMAT.
CHKSTS	- CHKSTS.INC -- CHECK STATUS
DLVEVB	- EVENT BLOCK DEFINITIONS FOR DELIVERING A MESSAGE.
TABDEF	- INPUT DEFINITIONS FOR TABLE ROUTINES.
SACANM	- MODIFIED 1/30/84 FOR EXPANDED AP NAME
SDSPDT	- PURPOSE.
GDARGS	-
TBLAPT	- THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
TBLGD	- THE GUARANTEED DELIVERY TABLE IN AN APC GLOBAL TABLE.
TBLDIR	- THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.
TBLIAT	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLAPS	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLAPI	- THE AP-INFORMATION-TABLE; APC GLOBAL; USED FOR ROUTING.
TBLAPO	- AP OPERATING INFORMATION TABLE IS MPU LOCAL; OVERFLOW SHARED.
TBLCLD	- THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
TBLAPC	- THIS IS THE APC STATUS TABLE.... A HOST GLOBAL TABLE.
TBLMPR	- MESSAGE-PAIR-TABLE IS AN MPU LOCAL TABLE.

NTMMSG	- PURPOSE.
INIDAT	- FORMAT FOR INITIAL APC DATA.
APSBUF	- THE AP STATUS TABLE ..... APC GLOBAL.
SDDEF	- INDICATES THE TYPE OF SHUTDOWN THE APC IS IN.
APDFLG	- INDICATES IF ALL APS ON AP CLUSTER ARE DEAD.

ROUTINES CALLED:

SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.
IATTBL	- TABLE MANAGEMENT FUNCTIONS FOR THE I'M ALIVE TABLE.
APSTBL	- TABLE MANAGEMENT FUNCTIONS AP STATUS TABLE.
WRITPR	- WRITE PROCESS.
GDMSGS	- PURPOSE NOT KNOWN - ACTIVE CODE.

CALLED DIRECTLY BY:

APDEAD	- PROCESS AP DYING MESSAGE
DLVMSG	- DELIVER MESSAGE TO THE AP.
IMALIV	- PROCESS I'M ALIVE MESSAGE.
INITAP	- INITIATE THE APPLICATION PROCESS.
TIMCHK	- TIME CHECKER.

USED IN MAIN PROGRAM(S):

INICHK	- CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

```
NAME:                   SFTSD
PURPOSE:                SEND SOFT SHUT DOWN MESSAGE TO AP.
LANGUAGE:               VAX-11 COBOL
MODULE TYPE:            SUBROUTINE
SOURCE FILE:            SFTSD
SOURCE FILE TYPE:       .COB
HOST:
SUBSYSTEM:              NTM
SUBDIRECTORY:           MPU
DOCUMENTATION GROUP:    NTMMPU

DESCRIPTION:
------------


  - SEND "SD"  TO THE AP SO THAT IT WILL
  SHUT ITSELF DOWN.



ARGUMENTS:
----------
  AP-CHAR-TABLE = RECRD


INCLUDE FILES:
--------------
  SYSERR      - SYSTEM ERROR CODE DEFINITIONS.
  TABDEF      - INPUT DEFINITIONS FOR TABLE ROUTINES.
  APTBUF      - AP CHAR TABLE RECORD BUFFER.
  SDMNDT      - PURPOSE.
  DLVEVB      - EVENT BLOCK DEFINITIONS FOR DELIVERING A
                MESSAGE.
  DLVMBX      - 28 JAN 84 : CHANGES FOR LONGER AP NAME
  SFTSDM      - MODIFIED 1/30/84 FOR EXPANDED AP NAME
  CHKSTS      - CHKSTS.INC -- CHECK STATUS
  TBLAPT      - THIS IS THE AP CHARACTERISTIC TABLE... AN APC
                GLOBAL TABLE.
  INIDAT      - FORMAT FOR INITIAL APC DATA.
  MBXCHE      - MODIFIED 1/30/84 FOR EXPANDED AP NAME


ROUTINES CALLED:
----------------
  SNDMSG
  APTTBL      - TABLE MANAGEMENT FUNCTIONS FOR THE AP
                CHARACTERISTIC TABLE.
  SNDMON      - SEND MONITOR A STATUS MESSAGE VIA ITS APC.
  RELEVB


CALLED DIRECTLY BY:
-------------------
  SHTAPC      - SHUTDOWN THE AP CLUSTER.
```

USED IN MAIN PROGRAM(S):

INICHK	- CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: SHTAPC
PURPOSE: SHUTDOWN THE AP CLUSTER.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: SHTAPC
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- THERE ARE 3 TYPES OF SHUTDOWN THAT CAUSE AN APC TO SHUTDOWN --- APC SD, IISS SD AND HOST SD. IN ALL CASES, EACH AP IN THE CLUSTER IS SD ACCORDING TO ITS CHARACTERISTIC SHUTDOWN PROCEDURE--- ABORTED OR SENT A SOFT SD MSG. FOR EACH AP SD ON THE APC, ITS PARENT'S APC STATUS IS CHECKED. IF THE PARENT'S APC IS NOT IN A SD MODE, A CHILD STATUS MSG IS SENT TO THE PARENT'S MPU INFORMING THAT THE CHILD WAS SHUTDOWN. IF THE PARENT'S APC IS IN A SD MODE, THEN THE CHILD'S WILL PERFORM ITS OWN CLEANUP (WITHOUT CLEANUP MSG FROM PARENT'S MPU) AND SD MSGS WILL ALSO BE SENT TO THE AP'S OWN CHILDREN.

ARGUMENTS:

AP-CHAR-TABLE = RECRD

INCLUDE FILES:

CANDEF	- DEFINITIONS OF DATA PORTION OF CANNED MESSAGES.
CANMSG	- CANNED FORMAT FOR MESSAGE.
SDMNDT	- PURPOSE.
TABDEF	- INPUT DEFINITIONS FOR TABLE ROUTINES.
TBLDEF	-
SYSERR	- SYSTEM ERROR CODE DEFINITIONS.
APOBUF	- AP OPERATING INFO RECORD.
APSBUF	- THE AP STATUS TABLE ..... APC GLOBAL.
APTBUF	- AP CHAR TABLE RECORD BUFFER.
NTMMSG	- PURPOSE.
TBLAPT	- THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
TBLAPS	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLAPO	- AP OPERATING INFORMATION TABLE IS MPU LOCAL; OVERFLOW SHARED.
TBLCLD	- THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
INIDAT	- FORMAT FOR INITIAL APC DATA.
SDDEF	- INDICATES THE TYPE OF SHUTDOWN THE APC IS IN.

ROUTINES CALLED:

APSTBL	- TABLE MANAGEMENT FUNCTIONS AP STATUS TABLE.
SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.
APTTBL	- TABLE MANAGEMENT FUNCTIONS FOR THE AP CHARACTERISTIC TABLE.
SFTSD	- SEND SOFT SHUT DOWN MESSAGE TO AP.
DELPRC	- DELETE PROCESSES ON THE VAX.
SDKIDS	- SEND SHUTDOWN MESSAGES TO CHILD APS.
APOTBL	- TABLE MANAGEMENT FUNCTION FOR THE AP OPERATING TABLE.
SNDCAN	- SEND CANNED MESSAGE TO AP.

CALLED DIRECTLY BY:

SYSCOM	- PROCESS SYSTEM COMMANDS.

USED IN MAIN PROGRAM(S):

INICHK	- CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: SHUTAP
PURPOSE: PURPOSE NOT KNOWN - STUBBED OUT.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: SHUTAP
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

-

ARGUMENTS:

NTM-MESSAGE = RECRD

INCLUDE FILES:

NTMMSG - PURPOSE.

CALLED DIRECTLY BY:

SYSCOM - PROCESS SYSTEM COMMANDS.

USED IN MAIN PROGRAM(S):

INICHK - CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MFU Module Documentation

NAME: SNDCAN
PURPOSE: SEND CANNED MESSAGE TO AP.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: SNDCAN
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- CREATE A MSG FROM A CANNED HEADER AND SEND TO ON-CLUSTER AP.

ARGUMENTS:

AP-CHAR-TABLE = RECRD

INCLUDE FILES:

SDMNDT	- PURPOSE.
APTBUF	- AP CHAR TABLE RECORD BUFFER.
SYSERR	- SYSTEM ERROR CODE DEFINITIONS.
TABDEF	- INPUT DEFINITIONS FOR TABLE ROUTINES.
CHKSTS	- CHKSTS.INC -- CHECK STATUS
DLVEVB	- EVENT BLOCK DEFINITIONS FOR DELIVERING A MESSAGE.
DLVMBX	- 28 JAN 84 : CHANGES FOR LONGER AP NAME
MBXNME	- APC INPUT MAILBOX NAME FORMAT.
TBLAPT	- THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
INIDAT	- FORMAT FOR INITIAL APC DATA.
CANMSG	- CANNED FORMAT FOR MESSAGE.
MBXCHE	- MODIFIED 1/30/84 FOR EXPANDED AP NAME

ROUTINES CALLED:

GENSER	- GENERATE MESSAGE SERIAL NUMBER.
SNDMSG	
DLVQUE	- QUEUE MESSAGES TO ON APC AP'S IN DELIVER MESSAGE.
APTTBL	- TABLE MANAGEMENT FUNCTIONS FOR THE AP CHARACTERISTIC TABLE.
SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.
RELEVB	

CALLED DIRECTLY BY:

APDEAD	- PROCESS AP DYING MESSAGE
CHDPRC	- CHILD TABLE PROCESSING.
CHDSTM	- PROCESS CHILD STATUS MESSAGE.
CLDCHK	- CHECK CHILD TABLE FOR RESERVED ENTRIES.
CLNUP	- CLEAN UP THE AP STATUS ENTRY AND CHILD TABLE.
DELCLD	- DELETE CHILD ENTRY FROM CHILD TABLE.
DLVMSG	- DELIVER MESSAGE TO THE AP.
GDMSGS	- PURPOSE NOT KNOWN - ACTIVE CODE.
IATCHK	- AGE I'M ALIVE TABLE ENTRIES.
IMALIV	- PROCESS I'M ALIVE MESSAGE.
KIDST	- CHECK IF ALL CHILD APS ARE DEAD.
OFFCLQ	- HANDLE MESSAGES FOR OFF CLUSTER.
PFINIT	- PERFORM AP INITIATION.
PRINIT	- PROCESS AP INITIATION MESSAGE.
RTESND	- ROUTE AND SEND A MESSAGE.
SDKIDS	- SEND SHUTDOWN MESSAGES TO CHILD APS.
SHTAPC	- SHUTDOWN THE AP CLUSTER.

USED IN MAIN PROGRAM(S):

INICHK	- CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: SNDCLN
PURPOSE: SEND CLEANUP MESSAGE TO CHILD AP.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: SNDCLN
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- SEND CHILD STAT MSG TO PARENT AP.

ARGUMENTS:

NTM-MESSAGE = RECRD

INCLUDE FILES:

CLNUPM	- MODIFIED 1/30/84 FOR EXPANDED AP NAME
SDMNDT	- PURPOSE.
DLVEVB	- EVENT BLOCK DEFINITIONS FOR DELIVERING A MESSAGE.
CHKSTS	- CHKSTS.INC -- CHECK STATUS
MBXNME	- APC INPUT MAILBOX NAME FORMAT.
DLVMBX	- 28 JAN 84 : CHANGES FOR LONGER AP NAME
SYSERR	- SYSTEM ERROR CODE DEFINITIONS.
TBLAPS	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
NTMMSG	- PURPOSE.
INIDAT	- FORMAT FOR INITIAL APC DATA.

ROUTINES CALLED:

SNDMSG	
SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.
RELEVB	

CALLED DIRECTLY BY:

CHDSTM	- PROCESS CHILD STATUS MESSAGE.

USED IN MAIN PROGRAM(S):

INICHK	- CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE

FOR A GIVEN AP.

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

```
NAME:                   SNDCSM
PURPOSE:                SEND CHILD STATUS MESSAGE TO PARENT AP.
LANGUAGE:               VAX-11 COBOL
MODULE TYPE:            SUBROUTINE
SOURCE FILE:            SNDCSM
SOURCE FILE TYPE:       .COB
HOST:
SUBSYSTEM:              NTM
SUBDIRECTORY:           MPU
DOCUMENTATION GROUP:    NTMMPU

DESCRIPTION:
------------


  - SEND CHILD STAT MSG TO PARENT AP.


ARGUMENTS:
----------
  APS-BUF = RECRD


INCLUDE FILES:
--------------
  CHDSTM      - 28 JAN 84 : CHANGES FOR LONGER AP NAME
  SDMNDT      - PURPOSE.
  DLVEVB      - EVENT BLOCK DEFINITIONS FOR DELIVERING A
                MESSAGE.
  CHKSTS      - CHKSTS.INC -- CHECK STATUS
  SYSERR      - SYSTEM ERROR CODE DEFINITIONS.
  MBXNME      - APC INPUT MAILBOX NAME FORMAT.
  APSBUF      - THE AP STATUS TABLE ..... APC GLOBAL.
  INIDAT      - FORMAT FOR INITIAL APC DATA.


ROUTINES CALLED:
----------------
  SNDMSG
  SNDMON      - SEND MONITOR A STATUS MESSAGE VIA ITS APC.
  RELEVB


CALLED DIRECTLY BY:
-------------------
  APDEAD      - PROCESS AP DYING MESSAGE
  CHDSTM      - PROCESS CHILD STATUS MESSAGE.
  PFINIT      - PERFORM AP INITIATION.


USED IN MAIN PROGRAM(S):
------------------------
  INICHK      - CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE
```

FOR A GIVEN AP.

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

```
NAME:                   SNDMON
PURPOSE:                SEND MONITOR A STATUS MESSAGE VIA ITS APC.
LANGUAGE:               VAX-11 COBOL
MODULE TYPE:            SUBROUTINE
SOURCE FILE:            SNDMON
SOURCE FILE TYPE:       .COB
HOST:
SUBSYSTEM:              NTM
SUBDIRECTORY:           MPU
DOCUMENTATION GROUP:    NTMMPU

DESCRIPTION:
------------


  - SEND A MESSAGE TO MONITOR VIA ITS
  APC USING A CANNED HEADER.


ARGUMENTS:
----------
  SEND-MON-DAT = RECRD
  IDATA = RECRD


INCLUDE FILES:
--------------
  CHKSTS      - CHKSTS.INC -- CHECK STATUS
  DLVEVB      - EVENT BLOCK DEFINITIONS FOR DELIVERING A
                MESSAGE.
  SMCANM      - CANNED FORMAT FOR MESSAGE SENT OUT IN SNDMON.
  SYSERR      - SYSTEM ERROR CODE DEFINITIONS.
  MBXNME      - APC INPUT MAILBOX NAME FORMAT.
  SDMNDT      - PURPOSE.
  INIDAT      - FORMAT FOR INITIAL APC DATA.
  ERRPRO      - PROCESS ERROR INCLUDE FILE


ROUTINES CALLED:
----------------
  GENSER      - GENERATE MESSAGE SERIAL NUMBER.
  SNDMSG
  RELEVB
  ERRPRO


CALLED DIRECTLY BY:
-------------------
  ADDPR       - ADD ENTRY TO MESSAGE PAIR TABLE.
  ALDEAD      - CHECK IF ALL APS ON APC ARE DEAD
  APDEAD      - PROCESS AP DYING MESSAGE
  CHDPRC      - CHILD TABLE PROCESSING.
  CHDSTM      - PROCESS CHILD STATUS MESSAGE.
  CLDCHK      - CHECK CHILD TABLE FOR RESERVED ENTRIES.
  CLNUP       - CLEAN UP THE AP STATUS ENTRY AND CHILD TABLE.
```

CMPHDR	- COMPLETE MESSAGE HEADER.
CNCLSD	- PROCESS CANCEL SHUT DOWN MESSAGE ON UI APC.
DELCLD	- DELETE CHILD ENTRY FROM CHILD TABLE.
DETCOM	- DETERMINE CORRECT COMM AP.
DLVMSG	- DELIVER MESSAGE TO THE AP.
FSTART	- FINAL START-UP PROCEDURE.
GDMSGS	- PURPOSE NOT KNOWN - ACTIVE CODE.
IATCHK	- AGE I'M ALIVE TABLE ENTRIES.
IMALIV	- PROCESS I'M ALIVE MESSAGE.
INICHK	- CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
INITAK	- BUILD AND SEND AN UNSOLICITED INITIATION ACCEPT MESSAGE.
INITAP	- INITIATE THE APPLICATION PROCESS.
INITST	- INITIAL START-UP PROCEDURE.
LGMESG	- SEND A MESSAGE TO LOGTASK BASED ON LOGGING SELECTION.
LISTPR	- SEND LIST OF ACTIVE AP'S ON THIS APC TO THE MONITOR AP.
MPUINF	- SUPPLY MPU INFORMATION TO MESSAGE HEADER.
MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.
OFFCLQ	- HANDLE MESSAGES FOR OFF CLUSTER.
PAIRCK	- CHECK MESSAGE PAIR TABLE FOR TIMED OUT MESSAGES.
PFINIT	- PERFORM AP INITIATION.
POSAUT	- CHECK IF AUTH RESTRICTION ON THE DEST AP.
PRCONC	- PROCESS MESSAGES FROM ON THE CLUSTER.
PRINIT	- PROCESS AP INITIATION MESSAGE.
PRINPT	- PROCESS CLUSTER INPUT.
QWTINI	- WRITE INIT MESSAGES THAT CANNOT BE HANDLED NOW TO A WAIT QUEUE
RMVAST	- REMOVE ASTERIKS FROM MESSAGE HEADER.
RMVPR	- SEARCH FOR MATCH IN MESSAGE PAIR TABLE THEN REMOVE IT.
RTESND	- ROUTE AND SEND A MESSAGE.
SDKIDS	- SEND SHUTDOWN MESSAGES TO CHILD APS.
SDPEND	- PROCESS SHUT DOWN PENDING MSG ON UI APC.
SENDAP	- HANDLE MESSAGES FOR APS ON CLUSTER.
SFTSD	- SEND SOFT SHUT DOWN MESSAGE TO AP.
SHTAPC	- SHUTDOWN THE AP CLUSTER.
SNDCAN	- SEND CANNED MESSAGE TO AP.
SNDCLN	- SEND CLEANUP MESSAGE TO CHILD AP.
SNDCSM	- SEND CHILD STATUS MESSAGE TO PARENT AP.
SNDSAP	- SEND MESSAGE TO SOURCE AP.
SNDSTE	- SEND SYSTEM STATE MESSAGE TO ALIVE AP.
STRAPC	- START UP THE AP CLUSTER.
TABPRC	- PROCESS TABLE STATUS MESSAGE FROM MONITOR.
TRMAPC	- TERMINATE THE AP CLUSTER.
VIAOWN	- SEND MESSAGE VIA OWN APC INPUT MAILBOX.
VMSGCT	- VERIFY MESSAGE CATEGORY.
VYOFFC	- VERIFY MESSAGES FROM OFF THE CLUSTER.
WRITPR	- WRITE PROCESS.
WTINIT	- CHECK WAIT-FOR-INIT QUEUE FOR INIT MESSAGES FOR A GIVEN AP.

USED IN MAIN PROGRAM(S):

INICHK	- CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE

FOR A GIVEN AP.

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

```
NAME:                   SNDMTR
PURPOSE:                SEND LOCAL MONITOR A STATUS MESSAGE
                        DIRECTLY WITH LOGGING.
LANGUAGE:               VAX-11 COBOL
MODULE TYPE:            SUBROUTINE
SOURCE FILE:            SNDMTR
SOURCE FILE TYPE:       .COB
HOST:
SUBSYSTEM:              NTM
SUBDIRECTORY:           MPU
DOCUMENTATION GROUP:    NTMMPU

DESCRIPTION:
------------


  - SEND A MESSAGE TO THE LOCAL MONITOR
  DIRECTLY WITH MESSAGE LOGGING USING A CANNED HEADER.


ARGUMENTS:
----------
  SEND-MON-DAT = RECRD
  LOG-SELECT-STR = RECRD
  IDATA = RECRD


INCLUDE FILES:
--------------
  CHKSTS      - CHKSTS.INC -- CHECK STATUS
  DLVEVB      - EVENT BLOCK DEFINITIONS FOR DELIVERING A
                      MESSAGE.
  SMCANM      - CANNED FORMAT FOR MESSAGE SENT OUT IN SNDMON.
  SYSERR      - SYSTEM ERROR CODE DEFINITIONS.
  DLVMBX      - 28 JAN 84 : CHANGES FOR LONGER AP NAME
  SDMNDT      - PURPOSE.
  LOGSEL      - STRUCTURE FOR SELECTIVE LOGGING INFORMATION..
                      KEPT IN GLOBAL.
  INIDAT      - FORMAT FOR INITIAL APC DATA.
  ERRPRO      - PROCESS ERROR INCLUDE FILE


ROUTINES CALLED:
----------------
  GENSER      - GENERATE MESSAGE SERIAL NUMBER.
  LGMESG      - SEND A MESSAGE TO LOGTASK BASED ON LOGGING
                      SELECTION.
  SNDMSG
  DLVQUE      - QUEUE MESSAGES TO ON APC AP'S IN DELIVER
                      MESSAGE.
  RELEVB
  ERRPRO
```

CALLED DIRECTLY BY:

ADDPR	- ADD ENTRY TO MESSAGE PAIR TABLE.
FSTART	- FINAL START-UP PROCEDURE.
INITST	- INITIAL START-UP PROCEDURE.
MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.
PRCONC	- PROCESS MESSAGES FROM ON THE CLUSTER.
STRAPC	- START UP THE AP CLUSTER.
TABPRC	- PROCESS TABLE STATUS MESSAGE FROM MONITOR.
TRMAPC	- TERMINATE THE AP CLUSTER.

USED IN MAIN PROGRAM(S):

MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

```
NAME:                   SNDSAP
PURPOSE:                SEND MESSAGE TO SOURCE AP.
LANGUAGE:               VAX-11 COBOL
MODULE TYPE:            SUBROUTINE
SOURCE FILE:            SNDSAP
SOURCE FILE TYPE:       .COB
HOST:
SUBSYSTEM:              NTM
SUBDIRECTORY:           MPU
DOCUMENTATION GROUP:    NTMMPU

DESCRIPTION:
------------


  - CREATE A MSG FROM A CANNED HEADER AND
  SEND TO ON-CLUSTER AP.


ARGUMENTS:
----------
  AP-CHAR-TABLE = RECRD


INCLUDE FILES:
--------------
  APTBUF      - AP CHAR TABLE RECORD BUFFER.
  SDMNDT      - PURPOSE.
  SYSERR      - SYSTEM ERROR CODE DEFINITIONS.
  SACANM      - MODIFIED 1/30/84 FOR EXPANDED AP NAME
  TABDEF      - INPUT DEFINITIONS FOR TABLE ROUTINES.
  CHKSTS      - CHKSTS.INC -- CHECK STATUS
  DLVEVB      - EVENT BLOCK DEFINITIONS FOR DELIVERING A
                      MESSAGE.
  DLVMBX      - 28 JAN 84 : CHANGES FOR LONGER AP NAME
  NTMMSG      - PURPOSE.
  MBXNME      - APC INPUT MAILBOX NAME FORMAT.
  TBLAPT      - THIS IS THE AP CHARACTERISTIC TABLE... AN APC
                      GLOBAL TABLE.
  INIDAT      - FORMAT FOR INITIAL APC DATA.
  SDSPDT      - PURPOSE.
  MBXCHE      - MODIFIED 1/30/84 FOR EXPANDED AP NAME


ROUTINES CALLED:
----------------
  GENSER      - GENERATE MESSAGE SERIAL NUMBER.
  SNDMSG
  DLVQUE      - QUEUE MESSAGES TO ON APC AP'S IN DELIVER
                      MESSAGE.
  APTTBL      - TABLE MANAGEMENT FUNCTIONS FOR THE AP
                      CHARACTERISTIC TABLE.
  SNDMON      - SEND MONITOR A STATUS MESSAGE VIA ITS APC.
  RELEVB
```

CALLED DIRECTLY BY:

ADDPR	- ADD ENTRY TO MESSAGE PAIR TABLE.
CHDPRC	- CHILD TABLE PROCESSING.
CMPHDR	- COMPLETE MESSAGE HEADER.
IMALIV	- PROCESS I'M ALIVE MESSAGE.
MPUINF	- SUPPLY MPU INFORMATION TO MESSAGE HEADER.
POSAUT	- CHECK IF AUTH RESTRICTION ON THE DEST AP.
PRCONC	- PROCESS MESSAGES FROM ON THE CLUSTER.
PRINIT	- PROCESS AP INITIATION MESSAGE.
SNDSTE	- SEND SYSTEM STATE MESSAGE TO ALIVE AP.
VMSGCT	- VERIFY MESSAGE CATEGORY.

USED IN MAIN PROGRAM(S):

INICHK	- CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: SNDSTE
PURPOSE: SEND SYSTEM STATE MESSAGE TO ALIVE AP.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: SNDSTE
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- SEND A SYSTEM STATE MESSAGE TO THE NEW INSTANCE OF THE AP
PDATED JUN 9

ARGUMENTS:

AP-CHAR-TABLE = RECORD

INCLUDE FILES:

SDSPDT	- PURPOSE.
SSTEMG	- REWRITTEN 11/21/83
SYSTAT	- SYSTEM ERROR CODE DEFINITIONS.
SYSERR	- SYSTEM ERROR CODE DEFINITIONS.
TABDEF	- INPUT DEFINITIONS FOR TABLE ROUTINES.
APTBUF	- AP CHAR TABLE RECORD BUFFER.
SDMNDT	- PURPOSE.
DLVEVB	- EVENT BLOCK DEFINITIONS FOR DELIVERING A MESSAGE.
DLVMBX	- 28 JAN 84 : CHANGES FOR LONGER AP NAME
CHKSTS	- CHKSTS.INC -- CHECK STATUS
APSBUF	- THE AP STATUS TABLE ..... APC GLOBAL.
TBLAPT	- THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
INIDAT	- FORMAT FOR INITIAL APC DATA.
MBXCHE	- MODIFIED 1/30/84 FOR EXPANDED AP NAME

ROUTINES CALLED:

APTTBL	- TABLE MANAGEMENT FUNCTIONS FOR THE AP CHARACTERISTIC TABLE.
SNDMSG	
SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.
SNDSAP	- SEND MESSAGE TO SOURCE AP.
RELEVB	

CALLED DIRECTLY BY:

IMALIV - PROCESS I'M ALIVE MESSAGE.

USED IN MAIN PROGRAM(S):

INICHK - CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: STRAPC
PURPOSE: START UP THE AP CLUSTER.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: STRAPC
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- STRAPC STARTS UP THE CLUSTER BY CALLING 'INITST' TO DO THE INITIAL START UP PROCESSES SUCH AS CREATING MBXS, ETC... STRAPC THEN SENDS A MESSAGE TO THE MONITR AP REQUESTING THE TABLE STATUS AND CALLS 'TABPRC' TO WAIT FOR THE MONITR'S RESPONSE AND PROCESS IT. IF ALL IS SUCCESSFUL THEN 'STRAPC' SENDS AN 'APC ALIVE' MESSAGE TO THE MONITR AP AND CALLS 'FSTART' TO WAIT FOR (AND PROCESS) THE FINAL START UP INSTRUCTIONS FROM THE MONITR AP. IF AN ERROR OCCURS, AN 'UNSUCCESSFUL START-UP' CODE IS RETURNED TO THE CALLING AP.

ARGUMENTS:

AP-CHAR-TABLE = RECRD

INCLUDE FILES:

MBXNME - APC INPUT MAILBOX NAME FORMAT.
SDMNDT - PURPOSE.
SYSERR - SYSTEM ERROR CODE DEFINITIONS.
GDARGS -
INIDAT - FORMAT FOR INITIAL APC DATA.
LOGSEL - STRUCTURE FOR SELECTIVE LOGGING INFORMATION.. KEPT IN GLOBAL.
TBLAPT - THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
TBLAPI - THE AP-INFORMATION-TABLE; APC GLOBAL; USED FOR ROUTING.
TBLAPO - AP OPERATING INFORMATION TABLE IS MPU LOCAL; OVERFLOW SHARED.
TBLAPS - IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLACT - PURPOSE.
TBLAUT - THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
TBLGD - THE GUARANTEED DELIVERY TABLE IN AN APC GLOBAL TABLE.

TBLIAT	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLCLD	- THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
TBLMPR	- MESSAGE-PAIR-TABLE IS AN MPU LOCAL TABLE.
TBLDIR	- THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.
TBLAPC	- THIS IS THE APC STATUS TABLE.... A HOST GLOBAL TABLE.
NTMMSG	- PURPOSE.
APDFLG	- INDICATES IF ALL APS ON AP CLUSTER ARE DEAD.
SDDEF	- INDICATES THE TYPE OF SHUTDOWN THE APC IS IN.
INPEVB	- MPU'S MAIN PROCESSING EVENT BLOCKS--- ONE FOR THE APC HOT

ROUTINES CALLED:

INITST	- INITIAL START-UP PROCEDURE.
SNDMTR	- SEND LOCAL MONITOR A STATUS MESSAGE DIRECTLY WITH LOGGING.
SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.
TABPRC	- PROCESS TABLE STATUS MESSAGE FROM MONITOR.
FSTART	- FINAL START-UP PROCEDURE.
GDMSGS	- PURPOSE NOT KNOWN - ACTIVE CODE.

CALLED DIRECTLY BY:

EXCMPU	- EXECUTE MESSAGE PROCESSING UNIT.

USED IN MAIN PROGRAM(S):

MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: SUPDEF
PURPOSE: SUPPLY SYSTEM DEFAULTS.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: SUPDEF
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- IF DEFAULTS VALUES ARE NEEDED TO COMPLETE A MESSAGE HEADER FROM AN AP, THEN THE NTM WILL SUPPLY THEM.

ARGUMENTS:

NTM-MESSAGE = RECRD

INCLUDE FILES:

NTMMSG - PURPOSE.

CALLED DIRECTLY BY:

CMPHDR - COMPLETE MESSAGE HEADER.

USED IN MAIN PROGRAM(S):

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: SYSCOM
PURPOSE: PROCESS SYSTEM COMMANDS.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: SYSCOM
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- ACCORDING TO MSG TYPE, ROUTINES ARE CALLED TO PROCESS THE CURRENT MESSAGE.

ARGUMENTS:

DIRECTORY-TABLE = RECRD

INCLUDE FILES:

GDARGS	-
SDDEF	- INDICATES THE TYPE OF SHUTDOWN THE APC IS IN.
INIDAT	- FORMAT FOR INITIAL APC DATA.
TBLDIR	- THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.
TBLAPT	- THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
TBLAPC	- THIS IS THE APC STATUS TABLE.... A HOST GLOBAL TABLE.
TBLAPI	- THE AP-INFORMATION-TABLE; APC GLOBAL; USED FOR ROUTING.
TBLAPO	- AP OPERATING INFORMATION TABLE IS MPU LOCAL; OVERFLOW SHARED.
TBLAPS	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLCLD	- THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
TBLIAT	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLMPR	- MESSAGE-PAIR-TABLE IS AN MPU LOCAL TABLE.
TBLGD	- THE GUARANTEED DELIVERY TABLE IN AN APC GLOBAL TABLE.
NTMMSG	- PURPOSE.
APDFLG	- INDICATES IF ALL APS ON AP CLUSTER ARE DEAD.

ROUTINES CALLED:

SHUTAP	- PURPOSE NOT KNOWN - STUBBED OUT.
SHTAPC	- SHUTDOWN THE AP CLUSTER.
INITAP	- INITIATE THE APPLICATION PROCESS.
CLNHSD	- PURPOSE NOT KNOWN - STUBBED OUT.

LISTPR	- SEND LIST OF ACTIVE AP'S ON THIS APC TO THE MONITOR AP.
CLNUP	- CLEAN UP THE AP STATUS ENTRY AND CHILD TABLE.
ABORT	- PROCESS MESSAGE TYPE AB - ABORT APPLICATION
SDPEND	- PROCESS SHUT DOWN PENDING MSG ON UI APC.
CNCLSD	- PROCESS CANCEL SHUT DOWN MESSAGE ON UI APC.
HSTNRQ	- HOST NAME REQUEST PROCESSING.
GDMSGS	- PURPOSE NOT KNOWN - ACTIVE CODE.

CALLED DIRECTLY BY:

MNGPRC	- MANAGE PROCESS.

USED IN MAIN PROGRAM(S):

INICHK	- CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: TABPRC
PURPOSE: PROCESS TABLE STATUS MESSAGE FROM MONITOR.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: TABPRC
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- READ/WAIT ON MONITOR'S MESSAGE AND PROCESS THAT MSG IF IT ARRIVES. THE MSG WILL REVEAL THE STATUS OF THE TABLES AND THE MPU WILL EITHER BUILD THE TABLES FROM A LOCAL FILE (IF OK) OR REQUEST NEW TABLES FROM CDM. IF MTR'S MSG DOES NOT ARRIVE, THE RETCODE WILL BE SET TO 1.

ARGUMENTS:

AP-CHAR-TABLE = RECRD

INCLUDE FILES:

WAITDE	- SPACES OR 0.
SDMNDT	- PURPOSE.
STEVB	- START UP DEFINITIONS.
NTMMSG	- PURPOSE.
SYSERR	- SYSTEM ERROR CODE DEFINITIONS.
POPTAB	- **** PURPOSE NOT FOUND BY STRIPPER ****
TBLAPT	- THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
LOGSEL	- STRUCTURE FOR SELECTIVE LOGGING INFORMATION.. KEPT IN GLOBAL.
TBLAPI	- THE AP-INFORMATION-TABLE; APC GLOBAL; USED FOR ROUTING.
TBLAPO	- AP OPERATING INFORMATION TABLE IS MPU LOCAL; OVERFLOW SHARED.
TBLAPS	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLACT	- PURPOSE.
TBLAUT	- THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
TBLCLD	- THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
TBLGD	- THE GUARANTEED DELIVERY TABLE IN AN APC GLOBAL TABLE.
TBLIAT	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLMPR	- MESSAGE-PAIR-TABLE IS AN MPU LOCAL TABLE.
INPEVB	- MPU'S MAIN PROCESSING EVENT BLOCKS--- ONE FOR THE APC HOT

```
  INIDAT      - FORMAT FOR INITIAL APC DATA.
  MBXNME      - APC INPUT MAILBOX NAME FORMAT.
  WAITON      -
```

ROUTINES CALLED:

```
  RCVMSG
  SETTIM
  WAIT02
  CNLTIM
  GETMSG
  CDMFIL      - REQUEST NEW TABLE FROM CDM.
  APTINI      - INITIALIZE THE AP CHARACTERISTICS TABLE.
  APIINI      - INITIALIZE THE AP INFORMATION TABLE.
  APOINI      - INITIALIZE AP OPERATING TABLE.
  ACTINI      - LOAD THE AUTHORITY CHECK TABLE FROM THE
                      AUTHORITY CHECK FILE.
  CLDINI      - INITIALIZE CHILD TABLE.
  IATINI      - INITIALIZE THE I'M ALIVE TABLE.
  MPRINI      - INITILIAZE THE MESSAGE PAIR TABLE.
  APSINI      - INITIALIZE THE AP STATUS TABLE.
  SNDMTR      - SEND LOCAL MONITOR A STATUS MESSAGE DIRECTLY
                      WITH LOGGING.
  SNDMON      - SEND MONITOR A STATUS MESSAGE VIA ITS APC.
```

CALLED DIRECTLY BY:

```
  STRAPC      - START UP THE AP CLUSTER.
```

USED IN MAIN PROGRAM(S):

```
  MPUINI      - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT
                      POINT.
```

NTM/MPU Module Documentation

NAME: TIMCHK
PURPOSE: TIME CHECKER.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: TIMCHK
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- THIS ROUTINE IS INVOKED PERIODICALLY ON A TIMER TO CHECK SPECIFIC CONDITIONS AND STATUSES OF CERTAIN FILES. ALSO, THIS ROUTINE TRIES TO CLEANUP (SEND OUT THE MESSAGES IN) QUEUES.

ARGUMENTS:

AP-OP-INFO-TABLE = RECRD

INCLUDE FILES:

APCBUF	- SPACES OR 0, EXCEPT FOR RSTAT WHICH IS INITALIZED
APSBUF	- THE AP STATUS TABLE ..... APC GLOBAL.
TBLAPS	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLAPC	- THIS IS THE APC STATUS TABLE.... A HOST GLOBAL TABLE.
TBLMPR	- MESSAGE-PAIR-TABLE IS AN MPU LOCAL TABLE.
TBLAPT	- THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
TBLGD	- THE GUARANTEED DELIVERY TABLE IN AN APC GLOBAL TABLE.
TBLIAT	- IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
TBLCLD	- THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
INIDAT	- FORMAT FOR INITIAL APC DATA.
TBLAPO	- AP OPERATING INFORMATION TABLE IS MPU LOCAL; OVERFLOW SHARED.
TBLDIR	- THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.
TBLAPI	- THE AP-INFORMATION-TABLE; APC GLOBAL; USED FOR ROUTING.
SDDEF	- INDICATES THE TYPE OF SHUTDOWN THE APC IS IN.
APDFLG	- INDICATES IF ALL APS ON AP CLUSTER ARE DEAD.
NTMMSG	- PURPOSE.

ROUTINES CALLED:

PAIRCK	- CHECK MESSAGE PAIR TABLE FOR TIMED OUT MESSAGES.
IATCHK	- AGE I'M ALIVE TABLE ENTRIES.
CLDCHK	- CHECK CHILD TABLE FOR RESERVED ENTRIES.
SENDAP	- HANDLE MESSAGES FOR APS ON CLUSTER.
OFFCLQ	- HANDLE MESSAGES FOR OFF CLUSTER.

CALLED DIRECTLY BY:

PRINPT	- PROCESS CLUSTER INPUT.

USED IN MAIN PROGRAM(S):

MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: TRMAPC
PURPOSE: TERMINATE THE AP CLUSTER.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: TRMAPC
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- BEFORE SHUTTING DOWN THE APC, TRMAPC WRITES ALL THE QUEUES TO A FILE. THE LAST USED SERIAL # IS WRITTEN TO THE FILE INI.DAT WHERE IT WILL BE OBTAINED AT THE NEXT START UP. ALL SYSTEM FILES AND LOGS ARE CLOSED AND THE APC MBXS ARE DISCONNEDTED. FINALLY, AN 'APC TERMINATE' MSG IS SENT TO MTR AP AND THE MPU ENDS EXECUTION.

ARGUMENTS:

AP-CHAR-TABLE = RECRD

INCLUDE FILES:

CHKSTS	- CHKSTS.INC -- CHECK STATUS
STEVB	- START UP DEFINITIONS.
SDMNDT	- PURPOSE.
MBXNME	- APC INPUT MAILBOX NAME FORMAT.
SYSERR	- SYSTEM ERROR CODE DEFINITIONS.
TBLAPT	- THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
LOGSEL	- STRUCTURE FOR SELECTIVE LOGGING INFORMATION.. KEPT IN GLOBAL.
SDDEF	- INDICATES THE TYPE OF SHUTDOWN THE APC IS IN.
INPEVB	- MPU'S MAIN PROCESSING EVENT BLOCKS--- ONE FOR THE APC HOT
INIDAT	- FORMAT FOR INITIAL APC DATA.

ROUTINES CALLED:

SAVEQS	- PURPOSE NOT KNOWN - STUBBED OUT.
SNDMTR	- SEND LOCAL MONITOR A STATUS MESSAGE DIRECTLY WITH LOGGING.
SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.
DELMBX	

CALLED DIRECTLY BY:

EXCMPU - EXECUTE MESSAGE PROCESSING UNIT.

USED IN MAIN PROGRAM(S):

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: VIAOWN
PURPOSE: SEND MESSAGE VIA OWN APC INPUT MAILBOX.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: VIAOWN
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- CREATE A MSG FROM A CANNED HEADER AND SEND TO ON-CLUSTER AP.

ARGUMENTS:

NTM-MESSAGE = RECRD

INCLUDE FILES:

SDMNDT	- PURPOSE.
SYSERR	- SYSTEM ERROR CODE DEFINITIONS.
CHKSTS	- CHKSTS.INC -- CHECK STATUS
DLVEVB	- EVENT BLOCK DEFINITIONS FOR DELIVERING A MESSAGE.
MBXNME	- APC INPUT MAILBOX NAME FORMAT.
INIDAT	- FORMAT FOR INITIAL APC DATA.
NTMMSG	- PURPOSE.

ROUTINES CALLED:

SNDMSG	
SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.
RELEVB	

CALLED DIRECTLY BY:

HSTNRQ	- HOST NAME REQUEST PROCESSING.
IATCHK	- AGE I'M ALIVE TABLE ENTRIES.
INITAP	- INITIATE THE APPLICATION PROCESS.
LISTPR	- SEND LIST OF ACTIVE AP'S ON THIS APC TO THE MONITOR AP.
PAIRCK	- CHECK MESSAGE PAIR TABLE FOR TIMED OUT MESSAGES.
SDKIDS	- SEND SHUTDOWN MESSAGES TO CHILD APS.
WRITPR	- WRITE PROCESS.

USED IN MAIN PROGRAM(S):

INICHK	- CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: VMSGCT
PURPOSE: VERIFY MESSAGE CATEGORY.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: VMSGCT
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- LOOK UP THE MESSAGE CATEGORY IN THE MESSAGE CATEGORY TABLE TO VERIFY THAT IT IS A LEGAL CATEGORY. IF IT IS NOT FOUND THEN AN 'INVALID MSG CAT' MESSAGE IS SENT TO THE SOURCE AP.

ARGUMENTS:

AP-CHAR-TABLE = *RECRD*

INCLUDE FILES:

TABDEF	- INPUT DEFINITIONS FOR TABLE ROUTINES.
SDSPDT	- PURPOSE.
SDMNDT	- PURPOSE.
SYSERR	- SYSTEM ERROR CODE DEFINITIONS.
TBLAPT	- THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
TBLCAT	- FORMAT FOR INITIAL APC DATA.
INIDAT	- FORMAT FOR INITIAL APC DATA.
NTMMSG	- PURPOSE.

ROUTINES CALLED:

CATTBL	- TABLE MANAGEMENT FUNCTIONS FOR THE MESSAGE CATEGORY TABLE.
SNDSAP	- SEND MESSAGE TO SOURCE AP.
SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.

CALLED DIRECTLY BY:

PRCONC	- PROCESS MESSAGES FROM ON THE CLUSTER.

USED IN MAIN PROGRAM(S):

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: VYOFFC
PURPOSE: VERIFY MESSAGES FROM OFF THE CLUSTER.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: VYOFFC
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- MSG DESTINATION IS CHECKED TO BE EQUAL TO THE APCNAME IN ORDER TO VERIFY THAT THE MSG ARRIVED AT THE CORRECT DESTINATION APC.

ARGUMENTS:

NTM-MESSAGE = RECRD

INCLUDE FILES:

SDMNDT - PURPOSE.
SYSERR - SYSTEM ERROR CODE DEFINITIONS.
NTMMSG - PURPOSE.
INIDAT - FORMAT FOR INITIAL APC DATA.

ROUTINES CALLED:

SNDMON - SEND MONITOR A STATUS MESSAGE VIA ITS APC.

CALLED DIRECTLY BY:

MNGMSG - MANAGE MESSSAGE.

USED IN MAIN PROGRAM(S):

MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

NAME: WRITPR
PURPOSE: WRITE PROCESS.
LANGUAGE: VAX-11 COBOL
MODULE TYPE: SUBROUTINE
SOURCE FILE: WRITPR
SOURCE FILE TYPE: .COB
HOST:
SUBSYSTEM: NTM
SUBDIRECTORY: MPU
DOCUMENTATION GROUP: NTMMPU

DESCRIPTION:

- IF THE APC IS "COMM" OR THE MSG PRIORITY IS 0, THEN THE MSG IS WRITTEN TO THE AP'S COLD MBX OTHERWISE IT IS WRITTEN TO THE AP'S HOT MB. IF THE MBX IS NOT FOUND THEN THE AP'S MNX CHARS ARE CHECKED TO SEE WHAT MBXS SHOULD EXIST FOR THE AP. IF THE MBX IS SUPPOSED TO EXIST AND DOES NOT, A PROCESSING ERROR IS SENT TO THE OPRATOR VIA MTR AP. IF THE MBX IS NOT SUPPOSED TO EXIST THEN A 'MSG ERROR' MSG IS SENT TO THE SRC AP.

ARGUMENTS:

AP-CHAR-TABLE = RECRD

INCLUDE FILES:

APTBUF	- AP CHAR TABLE RECORD BUFFER.
SDSPDT	- PURPOSE.
SDMNDT	- PURPOSE.
CHKSTS	- CHKSTS.INC -- CHECK STATUS
TABDEF	- INPUT DEFINITIONS FOR TABLE ROUTINES.
SACANM	- MODIFIED 1/30/84 FOR EXPANDED AP NAME
DLVEVB	- EVENT BLOCK DEFINITIONS FOR DELIVERING A MESSAGE.
SYSERR	- SYSTEM ERROR CODE DEFINITIONS.
DLVMBX	- 28 JAN 84 : CHANGES FOR LONGER AP NAME
NTMMSG	- PURPOSE.
TBLAPT	- THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
INIDAT	- FORMAT FOR INITIAL APC DATA.
WRTMSG	- **********
MBXCHE	- MODIFIED 1/30/84 FOR EXPANDED AP NAME

ROUTINES CALLED:

SNDMSG	
APTTBL	- TABLE MANAGEMENT FUNCTIONS FOR THE AP

CHARACTERISTIC TABLE.

VIAOWN	- SEND MESSAGE VIA OWN APC INPUT MAILBOX.
SNDMON	- SEND MONITOR A STATUS MESSAGE VIA ITS APC.
RELEVB	

CALLED DIRECTLY BY:

SENDAP	- HANDLE MESSAGES FOR APS ON CLUSTER.

USED IN MAIN PROGRAM(S):

INICHK	- CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI	- MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

NTM/MPU Module Documentation

```
NAME:                   WTINIT
PURPOSE:                CHECK WAIT-FOR-INIT QUEUE FOR INIT
                        MESSAGES FOR A GIVEN AP.
LANGUAGE:               VAX-11 COBOL
MODULE TYPE:            SUBROUTINE
SOURCE FILE:            WTINIT
SOURCE FILE TYPE:       .COB
HOST:
SUBSYSTEM:              NTM
SUBDIRECTORY:           MPU
DOCUMENTATION GROUP:    NTMMPU

DESCRIPTION:
------------


  - LOOK IN WAIT-INIT QUEUE FOR AN
  INIT MSG FOR THE DYING (SPECIFIED) AP.
  IF A MESSAGE IS FOUND, THEN CALL
  'PFINIT' TO PERFORM THE INIT.
  PDATED JUN 9


ARGUMENTS:
----------
  DIRECTORY-TABLE = RECRD


INCLUDE FILES:
--------------
  WTINIQ      - MODIFIED 10/08/84 ADD SUPPORT FOR IBM IISS NODE
                    BCS APM
  WTIQFD      - MODIFIED 10/08/84 ADDED SUPPORT FOR IBM NODE
                    BCS APM
  NTMMSG      - PURPOSE.
  WTIQST      - MODIFIED 10/08/84 ADDED SUPPORT FOR IBM NODE
                    BCS APM
  SYSERR      - SYSTEM ERROR CODE DEFINITIONS.
  SDMNDT      - PURPOSE.
  TBLDIR      - THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.
  TBLAPT      - THIS IS THE AP CHARACTERISTIC TABLE... AN APC
                    GLOBAL TABLE.
  TBLAPC      - THIS IS THE APC STATUS TABLE.... A HOST GLOBAL
                    TABLE.
  TBLAPO      - AP OPERATING INFORMATION TABLE IS MPU LOCAL;
                    OVERFLOW SHARED.
  TBLAPS      - IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
  TBLIAT      - IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
  TBLMPR      - MESSAGE-PAIR-TABLE IS AN MPU LOCAL TABLE.
  TBLGD       - THE GUARANTEED DELIVERY TABLE IN AN APC GLOBAL
                    TABLE.
  TBLAPI      - THE AP-INFORMATION-TABLE; APC GLOBAL; USED FOR
                    ROUTING.
  TBLCLD      - THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
  SDDEF       - INDICATES THE TYPE OF SHUTDOWN THE APC IS IN.
```

APDFLG - INDICATES IF ALL APS ON AP CLUSTER ARE DEAD.
INIDAT - FORMAT FOR INITIAL APC DATA.
OPIINI - ADDED SUPPORT FOR IBM APC NAMES APM
RDWTIQ - ADDED SUPPORTFOR IBM APC NAMES APM
REWINI - WAIT-INIT QUEUE FILE
CLQINI - MODIFIED 10/08/84 ADDED SUPPORT FOR IBM NODE BCS APM

ROUTINES CALLED:

PFINIT - PERFORM AP INITIATION.
SNDMON - SEND MONITOR A STATUS MESSAGE VIA ITS APC.

CALLED DIRECTLY BY:

APDEAD - PROCESS AP DYING MESSAGE

USED IN MAIN PROGRAM(S):

INICHK - CHECK WAIT-FOR-INITILIZATION QUEUE FOR MESSAGE FOR A GIVEN AP.
MPUINI - MESSAGE PROCESSING UNIT ENTRY POINT AND EXIT POINT.

3.10.9 Include File Descriptions

The following list contains a purpose and description of each include file listed in 3.10.4 as specified in the source code. The language it is written in is also given.

NTM/MPU Include File Description

FILE NAME: AAMSG
PURPOSE: 28 JAN 84 : CHANGES FOR LONGER AP NAME
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED 16 AUG 84 INITALIZE ALL LOCAL VARAIBLES TO
SPACES OR 0, EXCEPT FOR RSTAT WHICH IS
INITALIZED
TO "00000".

NTM/MPU Include File Description

FILE NAME: ACTBUF
PURPOSE: INPUT DEFINITIONS FOR TABLE ROUTINES.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED 8/16/84 INITALIZE ALL LOCAL VARAIBLES TO SPACES
OR 0
MODIFIED 5/25/85 CLEAN-UP.

NTM/MPU Include File Description

FILE NAME: APCBUF
PURPOSE: SPACES OR 0, EXCEPT FOR RSTAT WHICH IS INITALIZED
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

TO "00000".

NTM/MPU Include File Description

FILE NAME: APDFLG
PURPOSE: INDICATES IF ALL APS ON AP CLUSTER ARE DEAD.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED	8/16/84	INITALIZE ALL LOCAL VARAIBLES TO SPACES OR 0, EXCEPT FOR RSTAT WHICH IS INITALIZED TO "00000".
MODIFIED	5/25/85	CLEAN-UP.

NTM/MPU Include File Description

FILE NAME: APIBUF
PURPOSE: SPACES OR 0.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

NTM/MPU Include File Description

FILE NAME: APOBUF
PURPOSE: AP OPERATING INFO RECORD.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED 1/20/84 FOR INDEX KEY.
MODIFIED 1/30/84 FOR EXPANDED AP NAME.
MODIFIED 8/16/84 INITALIZE ALL LOCAL VARAIBLES TO SPACES OR 0
MODIFIED 5/25/85 CLEAN-UP.

NTM/MPU Include File Description

FILE NAME: APSBUF
PURPOSE: THE AP STATUS TABLE ..... APC GLOBAL.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED	1/23/84	TO ELIMINATE SEARCH ON INDEX AND TO FIX THE STRUCTURE FOR INDEXED TABLES.
MODIFIED	1/26/84	FOR MSG-CHAIN STRUCTURE.
MODIFIED	1/30/84	FOR EXPANDED AP NAME.
MODIFIED	8/16/84	INITALIZE ALL LOCAL VARAIBLES TO SPACES OR 0
MODIFIED	5/25/85	CLEAN-UP.

NTM/MPU Include File Description

FILE NAME: APTBUF
PURPOSE: AP CHAR TABLE RECORD BUFFER.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED 1/28/84 CHANGES FOR LONGER AP NAME.
MODIFIED 8/16/84 INITALIZE ALL LOCAL VARAIBLES TO SPACES OR 0
MODIFIED 5/25/85 CLEAN-UP.

NTM/MPU Include File Description

FILE NAME: BADINI
PURPOSE: MODIFIED 1/30/84 FOR EXPANDED AP NAME
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED 16 AUG 84 INITALIZE ALL LOCAL VARAIBLES TO SPACES OR 0.

NTM/MPU Include File Description

FILE NAME: CANDEF
PURPOSE: DEFINITIONS OF DATA PORTION OF CANNED MESSAGES.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

WRITTEN	2/08/84	
MODIFIED	8/16/84	INITALIZE ALL LOCAL VARAIBLES TO SPACES OR 0
MODIFIED	5/25/85	CLEAN-UP.

NTM/MPU Include File Description

FILE NAME: CANMSG
PURPOSE: CANNED FORMAT FOR MESSAGE.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

WRITTEN	2/07/84	TO HANDLE ENTRY-NOT-FOUND.
MODIFIED	8/16/84	INITALIZE ALL LOCAL VARAIBLES TO SPACES OR 0
MODIFIED	5/25/85	CLEAN-UP.

NTM/MPU Include File Description

FILE NAME: CATBUF
PURPOSE: THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

NTM/MPU Include File Description

FILE NAME: CHDSTM
PURPOSE: 28 JAN 84 : CHANGES FOR LONGER AP NAME
LANGUAGE: VAX-11 COBOL

DESCRIPTION:
---

26 SEP 84 : VARIABLE INITIALIZATION BCS APM *

NTM/MPU Include File Description

FILE NAME: CHKSTS
PURPOSE: CHKSTS.INC -- CHECK STATUS
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

NTM/MPU Include File Description

FILE NAME: CLDBUF
PURPOSE: SPACES OR 0.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

NTM/MPU Include File Description

FILE NAME: CLNUPM
PURPOSE: MODIFIED 1/30/84 FOR EXPANDED AP NAME
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

NTM/MPU Include File Description

FILE NAME: CLOSED
PURPOSE: **********

LANGUAGE: VAX-11 COBOL

DESCRIPTION:

NTM/MPU Include File Description

FILE NAME: CLQINI
PURPOSE: MODIFIED 10/08/84 ADDED SUPPORT FOR IBM NODE BCS APM
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

NTM/MPU Include File Description

FILE NAME: CRTPRD
PURPOSE: THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

WRITTEN	1/31/84	TO HANDLE THE DIRECTORY PREFIX.
MODIFIED	8/23/84	INITALIZE ALL VARAIBLES TO SPACES OR 0.
MODIFIED	3/01/85	INCLUDE DEVICE TYPE IN TABLE; REARRANGE POSITION OF LENGTH.
MODIFIED	5/25/85	CLEAN-UP.

NTM/MPU Include File Description

FILE NAME: DLVEVB
PURPOSE: EVENT BLOCK DEFINITIONS FOR DELIVERING A MESSAGE.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

RESTORED 11/22/83
MODIFIED 1/30/84 FOR EXPANDED AP NAME.
MODIFIED 8/16/84 INITALIZE ALL LOCAL VARAIBLES TO SPACES OR 0
MODIFIED 5/29/85 CLEAN-UP.

NTM/MPU Include File Description

FILE NAME: DLVMBX
PURPOSE: 28 JAN 84 : CHANGES FOR LONGER AP NAME
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

NTM/MPU Include File Description

FILE NAME: DLVQFD
PURPOSE: **********

LANGUAGE: VAX-11 COBOL

DESCRIPTION:

NTM/MPU Include File Description

FILE NAME: DLVQFI
PURPOSE: **********
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

NTM/MPU Include File Description

FILE NAME: DLVQST
PURPOSE: **********

LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED 16 AUG 84 INITALIZE ALL LOCAL VARAIBLES TO

NTM/MPU Include File Description

FILE NAME: DWTQST
PURPOSE: **********
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

NTM/MPU Include File Description

FILE NAME: FILERR
PURPOSE: THE NTM QUEUE ERROR FILE.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

CREATED 1/11/84
MODIFIED 5/31/85 CLEAN-UP.

NTM/MPU Include File Description

FILE NAME: GDARGS
PURPOSE:
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED 16 AUG 84 INITALIZE ALL LOCAL VARAIBLES TO SPACES OR 0.

NTM/MPU Include File Description

FILE NAME: GDDATA
PURPOSE:
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED 16 AUG 84 INITALIZE ALL LOCAL VARAIBLES TO SPACES OR 0.

NTM/MPU Include File Description

FILE NAME: HNRTMG
PURPOSE: WRITTEN 11/2/83
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED 1/30/84 FOR EXPANDED AP NAME *
MODIFIED 16 AUG 84 INITALIZE ALL LOCAL VARAIBLES TO
SPACES OR 0.

NTM/MPU Include File Description

FILE NAME: HSTGLE
PURPOSE: THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED 1/30/84 FOR EXPANDED AP NAME.
MODIFIED 8/23/84 INITALIZE ALL VARAIBLES TO SPACES OR 0.
MODIFIED 5/25/85 CLEAN-UP.

NTM/MPU Include File Description

FILE NAME: IATBUF
PURPOSE: THE AP STATUS TABLE ..... APC GLOBAL.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED	1/23/84	TO ELIMINATE SEARCH ON INDEX AND TO FIX THE STRUCTURE FOR INDEXED TABLES.
MODIFIED	1/26/84	FOR MSG-CHAIN STRUCTURE.
MODIFIED	1/30/84	FOR EXPANDED AP NAME.
MODIFIED	8/16/84	INITALIZE ALL LOCAL VARAIBLES TO SPACES OR 0

NTM/MPU Include File Description

FILE NAME: IN
PURPOSE: AT START UP.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

NTM/MPU Include File Description

FILE NAME: INIDAT
PURPOSE: FORMAT FOR INITIAL APC DATA.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

```
   RESTORED 11/22/83
   MODIFIED 12/23/83 TO ADD ACK FLAG.
   MODIFIED  1/24/84 FOR NEW AP LENGTHS, ADDED
                     UIAPNAME,REWORKED
                     INSTANCE SPECIFIER.
   MODIFIED  8/24/84 FOR VAILABLE INITS.
   MODIFIED  8/24/84 ADDED ADDTITIONAL IBM 88 LEVEL NAME. BCS
                     APM
   MODIFIED  5/25/85 CLEAN-UP.
```

NTM/MPU Include File Description

FILE NAME: INPEVB
PURPOSE: MPU'S MAIN PROCESSING EVENT BLOCKS--- ONE FOR THE APC HOT
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MAILBOX, APC COLD MAILBOX, AND ONE FOR THE TIMER

MODIFIED 1/30/84 FOR EXPANDED AP NAME.
MODIFIED 8/16/84 INITALIZE ALL LOCAL VARAIBLES TO SPACES OR 0
MODIFIED 5/29/85 CLEAN-UP.

NTM/MPU Include File Description

FILE NAME: LGMSG
PURPOSE: *
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED REL 1.2 TO SUPPORT FULL NTM MSG LENGTH 07/12/84 APM

NTM/MPU Include File Description

FILE NAME: LOGSEL
PURPOSE: STRUCTURE FOR SELECTIVE LOGGING INFORMATION.. KEPT IN GLOBAL.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MAINTAINED BY MONITOR, AND ACCESSED BY THE MPUS.

MODIFIED 3/22/84 TO ADD DEFINTION OF CATEGORY VALUES DEFINE-CAT.
MODIFIED 8/23/84 INITALIZE ALL VARAIBLES TO SPACES OR 0.
MODIFIED 5/29/85 CLEAN-UP.

NTM/MPU Include File Description

FILE NAME: MBXCHE
PURPOSE: MODIFIED 1/30/84 FOR EXPANDED AP NAME
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

```
  MODIFIED 3/6/84 TO RELEASE EVENT BLOCK ON MBX-   *
   NOT-FOUND ONLY WHERE MBX SHOULD EXIST           *
```

NTM/MPU Include File Description

FILE NAME: MBXNME
PURPOSE: APC INPUT MAILBOX NAME FORMAT.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED 1/28/84 CHANGES FOR LONGER AP NAME.
MODIFIED 8/23/84 INITALIZE ALL VARAIBLES TO SPACES OR 0.
MODIFIED 5/29/85 CLEAN-UP.

NTM/MPU Include File Description

FILE NAME: MPRBUF
PURPOSE: MESSAGE-PAIR-TABLE IS AN MPU LOCAL TABLE.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

RESTORED 11/22/83
MODIFIED 1/25/84 FOR INDEXED STRUCTURE.
MODIFIED 2/02/84 FOR EXPANDED AP NAME.
MODIFIED 8/23/84 INITALIZE ALL VARAIBLES TO SPACES OR 0.
MODIFIED 5/25/85 CLEAN-UP.

NTM/MPU Include File Description

FILE NAME: NTMMSG
PURPOSE: PURPOSE.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED 1/28/84 CHANGES FOR LONGER AP NAME.
MODIFIED 1/30/84 FOR APNAME STRUCTURE.
MODIFIED 8/16/84 INITALIZE ALL LOCAL VARAIBLES TO SPACES OR 0
MODIFIED 5/25/85 CLEAN-UP.

NTM/MPU Include File Description

FILE NAME: OPENDL
PURPOSE:

****
-
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

NTM/MPU Include File Description

FILE NAME: OPIINI
PURPOSE: ADDED SUPPORT FOR IBM APC NAMES APM
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

02/06/85 CRRECTED SEQUENCE OF TESTS APM *

NTM/MPU Include File Description

FILE NAME: OPQINI
PURPOSE: MODIFIED 10/08/84 MODIFIED FOR IBM SUPPORT APM
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

02/06/85 ADDED LAST MOVE STATEMENT *

NTM/MPU Include File Description

FILE NAME: PSSAPC
PURPOSE: **********
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED 16 AUG 84 INITALIZE ALL LOCAL VARAIBLES TO SPACES OR 0.
MODIFIED 29 AUG 84 ADDED IBM USER INTERFACE VALUE. BCS APM

NTM/MPU Include File Description

FILE NAME: QMSG
PURPOSE: **
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED 16 AUG 84 INITALIZE ALL LOCAL VARAIBLES TO SPACES OR 0.

NTM/MPU Include File Description

FILE NAME: kDWTIQ
PURPOSE: ADDED SUPPORTFOR IBM APC NAMES APM
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

NTM/MPU Include File Description

FILE NAME: REWINI
PURPOSE: WAIT-INIT QUEUE FILE
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

ADDED SUPPORT FOR IBM APC NAMES APM *

NTM/MPU Include File Description

FILE NAME: SACANM
PURPOSE: MODIFIED 1/30/84 FOR EXPANDED AP NAME
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED 16 AUG 84 INITALIZE ALL LOCAL VARAIBLES TO SPACES OR 0.

NTM/MPU Include File Description

FILE NAME: SDDEF
PURPOSE: INDICATES THE TYPE OF SHUTDOWN THE APC IS IN.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED 8/16/84 INITALIZE ALL LOCAL VARAIBLES TO SPACES
OR 0
MODIFIED 5/25/85 CLEAN-UP.

NTM/MPU Include File Description

FILE NAME: SDKIDM
PURPOSE: 28 jan 84 : changes for longer ap name
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

NTM/MPU Include File Description

FILE NAME: SDMNDT
PURPOSE: PURPOSE.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED 8/23/84 INITALIZE ALL VARAIBLES TO SPACES OR 0.
MODIFIED 5/25/85 CLEAN-UP.

NTM/MPU Include File Description

FILE NAME: SDSPDT
PURPOSE: PURPOSE.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED 1/30/84 FOR EXPANDED AP NAME.

NTM/MPU Include File Description

FILE NAME: SFTSDM
PURPOSE: MODIFIED 1/30/84 FOR EXPANDED AP NAME
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

NTM/MPU Include File Description

FILE NAME: SMCANM
PURPOSE: CANNED FORMAT FOR MESSAGE SENT OUT IN SNDMON.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED 1/28/84 CHANGES FOR LONGER AP NAME.
MODIFIED 5/29/85 CLEAN-UP.

NTM/MPU Include File Description

FILE NAME: SSTEMG
PURPOSE: REWRITTEN 11/21/83
LANGUAGE: VAX-11 COBOL

DESCRIPTION:
---

28 JAN 84 : CHANGES FOR LONGER AP NAME *

NTM/MPU Include File Description

FILE NAME: STEVB
PURPOSE: START UP DEFINITIONS.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

RESTORED 11/22/83
MODIFIED 8/16/84 INITALIZE ALL LOCAL VARAIBLES TO SPACES
OR 0
MODIFIED 5/29/85 CLEAN-UP.

NTM/MPU Include File Description

FILE NAME: SYSERR
PURPOSE: SYSTEM ERROR CODE DEFINITIONS.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED 1/09/84 TO INCLUDE ERRORS DEFINED IN RELEASE 1.1
CHANGED TO DELETE ALPHA CHARS.
MODIFIED 2/07/84 TO ADD ERROR CODES FOR ENTRY NOT-FOUND
LOGIC
MODIFIED 4/23/85 ADDED INSTANCE-UNAVAIL.
MODIFIED 5/25/85 CLEAN-UP.

NTM/MPU Include File Description

FILE NAME: SYSTAT
PURPOSE: SYSTEM ERROR CODE DEFINITIONS.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED	1/09/84	TO INCLUDE ERRORS DEFINED IN RELEASE 1.1 CHANGED TO DELETE ALPHA CHARS.
MODIFIED	2/07/84	TO ADD ERROR CODES FOR ENTRY NOT-FOUND LOGIC
MODIFIED	4/23/85	ADDED INSTANCE-UNAVAIL.
MODIFIED	5/25/85	CLEAN-UP.

NTM/MPU Include File Description

FILE NAME: TABDEF
PURPOSE: INPUT DEFINITIONS FOR TABLE ROUTINES.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED 8/16/84 INITALIZE ALL LOCAL VARAIBLES TO SPACES
OR 0

NTM/MPU Include File Description

FILE NAME: TBLACT
PURPOSE: PURPOSE.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED 1/28/84 CHANGES FOR LONGER AP NAME.
MODIFIED 1/30/84 FOR APNAME STRUCTURE.
MODIFIED 8/16/84 INITALIZE ALL LOCAL VARAIBLES TO SPACES OR 0
MODIFIED 5/25/85 CLEAN-UP.

NTM/MPU Include File Description

FILE NAME: TBLAPC
PURPOSE: THIS IS THE APC STATUS TABLE.... A HOST GLOBAL TABLE.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED 8/23/84 INITALIZE ALL VARAIBLES TO SPACES OR 0.
MODIFIED 5/25/85 CLEAN-UP.

NTM/MPU Include File Description

FILE NAME: TBLAPI
PURPOSE: THE AP-INFORMATION-TABLE; APC GLOBAL; USED FOR ROUTING.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED 10/31/83 TO ADD Q-SERVER INFO TO TABLE - USED TO IDENTIFY A Q-SERVER NOT NEEDING A CHILD TABLE ENTRY.
MODIFIED 1/30/84 FOR EXPANDED AP NAME.
MODIFIED 8/23/84 INITALIZE ALL VARAIBLES TO SPACES OR 0.
MODIFIED 5/25/85 CLEAN-UP.

NTM/MPU Include File Description

FILE NAME: TBLAPO
PURPOSE: AP OPERATING INFORMATION TABLE IS MPU LOCAL;
OVERFLOW SHARED.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED 1/20/84 TO MAKE APO A DYNAMIC INDEXED TABLE.
MODIFIED 1/30/84 FOR EXPANDED AP NAME.
MODIFIED 8/23/84 INITALIZE ALL VARAIBLES TO SPACES OR 0.
MODIFIED 5/25/85 CLEAN-UP.

NTM/MPU Include File Description

FILE NAME: TBLAPS
PURPOSE: IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

RESTORED 11/22/83
MODIFIED 1/24/84 FOR INDEXED STRUCTURE.
MODIFIED 1/30/84 FOR EXPANDED AP NAME.
MODIFIED 8/23/84 INITALIZE ALL VARAIBLES TO SPACES OR 0.
MODIFIED 5/25/85 CLEAN-UP.

NTM/MPU Include File Description

FILE NAME: TBLAPT
PURPOSE: THIS IS THE AP CHARACTERISTIC TABLE... AN APC GLOBAL TABLE.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED 1/30/84 FOR EXPANDED AP NAME.
MODIFIED 8/23/84 INITALIZE ALL VARAIBLES TO SPACES OR 0.
MODIFIED 5/25/85 CLEAN-UP.

NTM/MPU Include File Description

FILE NAME: TBLAUT
PURPOSE: THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED	10/31/83	TO ADD VALUES OF RESCDE AND CTRIES - NEEDED TO IMPLEMENT THE CHILD TABLE PROCESSING TO AVOID CHILD TABLE FULL AFTER THE CHILD AP HAS STARTED.
MODIFIED	11/10/83	TO CHANGE LAST-ENTRY TO ACTIVE-ENTRIES.
RESTORED	11/22/83	
MODIFIED	1/23/84	TO ELIMINATE SEARCH ON INDEX AND TO FIX THE STRUCTURE FOR INDEXED FILES.
MODIFIED	1/30/84	FOR EXPANDED AP NAME.
MODIFIED	8/23/84	INITALIZE ALL VARAIBLES TO SPACES OR 0.
MODIFIED	5/25/85	CLEAN-UP.

NTM/MPU Include File Description

FILE NAME: TBLCAT
PURPOSE: FORMAT FOR INITIAL APC DATA.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

RESTORED	11/22/83	
MODIFIED	12/23/83	TO ADD ACK FLAG.
MODIFIED	1/24/84	FOR NEW AP LENGTHS, ADDED UIAPNAME,REWORKED INSTANCE SPECIFIER.
MODIFIED	8/24/84	FOR VAILABLE INITS.
MODIFIED	8/24/84	ADDED ADDTITIONAL IBM 88 LEVEL NAME. BCS APM
MODIFIED	5/25/85	CLEAN-UP.

NTM/MPU Include File Description

FILE NAME: TBLCLD
PURPOSE: THE CHILD-TABLE IS AN MPU-LOCAL TABLE.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED	10/31/83	TO ADD VALUES OF RESCDE AND CTRIES - NEEDED TO IMPLEMENT THE CHILD TABLE PROCESSING TO AVOID CHILD TABLE FULL AFTER THE CHILD AP HAS STARTED.
MODIFIED	11/10/83	TO CHANGE LAST-ENTRY TO ACTIVE-ENTRIES.
RESTORED	11/22/83	
MODIFIED	1/23/84	TO ELIMINATE SEARCH ON INDEX AND TO FIX THE STRUCTURE FOR INDEXED FILES.
MODIFIED	1/30/84	FOR EXPANDED AP NAME.
MODIFIED	8/23/84	INITALIZE ALL VARAIBLES TO SPACES OR 0.
MODIFIED	5/25/85	CLEAN-UP.

NTM/MPU Include File Descript

FILE NAME: TBLDEF
PURPOSE:
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED 16 AUG 84 INITALIZE ALL LOCAL VARAIBLES TO SPACES OR 0.

NTM/MPU Include File Description

FILE NAME: TBLDIR
PURPOSE: THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

WRITTEN	1/31/84	TO HANDLE THE DIRECTORY PREFIX.
MODIFIED	8/23/84	INITALIZE ALL VARAIBLES TO SPACES OR 0.
MODIFIED	3/01/85	INCLUDE DEVICE TYPE IN TABLE; REARRANGE POSITION OF LENGTH.
MODIFIED	5/25/85	CLEAN-UP.

NTM/MPU Include File Description

FILE NAME: TBLGD
PURPOSE: THE GUARANTEED DELIVERY TABLE IN AN APC GLOBAL TABLE.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED 1/30/84 FOR EXPANDED AP NAME.
MODIFIED REL 1.2 FOR SERIAL NO STRUCTURE.

NTM/MPU Include File Description

FILE NAME: TBLHST
PURPOSE: THIS IS THE APC STATUS TABLE.... A HOST GLOBAL TABLE.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED 8/23/84 INITALIZE ALL VARAIBLES TO SPACES OR 0.
MODIFIED 5/25/85 CLEAN-UP.

NTM/MPU Include File Description

FILE NAME: TBLIAT
PURPOSE: IM-ALIVE-TABLE IS AN MPU LOCAL TABLE.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

RESTORED 11/22/83
MODIFIED 1/24/84 FOR INDEXED STRUCTURE.
MODIFIED 1/30/84 FOR EXPANDED AP NAME.
MODIFIED 8/23/84 INITALIZE ALL VARAIBLES TO SPACES OR 0.
MODIFIED 5/25/85 CLEAN-UP.

NTM/MPU Include File Description

FILE NAME: TBLLST
PURPOSE: THE DIRECTORY TABLE IS A HOST GLOBAL TABLE.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

WRITTEN	1/31/84	TO HANDLE THE DIRECTORY PREFIX.
MODIFIED	8/23/84	INITALIZE ALL VARAIBLES TO SPACES OR 0.
MODIFIED	3/01/85	INCLUDE DEVICE TYPE IN TABLE; REARRANGE POSITION OF LENGTH.
MODIFIED	5/25/85	CLEAN-UP.

NTM/MPU Include File Description

FILE NAME: TBLMPR
PURPOSE: MESSAGE-PAIR-TABLE IS AN MPU LOCAL TABLE.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

RESTORED 11/22/83
MODIFIED 1/25/84 FOR INDEXED STRUCTURE.
MODIFIED 2/02/84 FOR EXPANDED AP NAME.
MODIFIED 8/23/84 INITALIZE ALL VARAIBLES TO SPACES OR 0.
MODIFIED 5/25/85 CLEAN-UP.

NTM/MPU Include File Description

FILE NAME: TOMSG
PURPOSE: MODIFIED 1/30/84 FOR EXPANDED AP NAME
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

NTM/MPU Include File Description

FILE NAME: UNINAK
PURPOSE: MODIFIED 2/4/84 FOR EXPANDED AP NAME
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

MODIFIED 16 AUG 84 INITALIZE ALL LOCAL VARAIBLES TO SPACES OR 0.

NTM/MPU Include File Description

FILE NAME: WAITDE
PURPOSE: SPACES OR 0.
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

NTM/MPU Include File Description

FILE NAME: WAITON
PURPOSE: **********
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

CALL RECEIVE ON MBX

NTM/MPU Include File Description

FILE NAME: WRITED
PURPOSE: **********
-

LANGUAGE: VAX-11 COBOL

DESCRIPTION:

NTM/MPU Include File Description

FILE NAME: WRTINI
PURPOSE: MODIFIED 10/08/84 MODIFIED FOR IBM SUPPORT BCS APM
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

NTM/MPU Include File Description

FILE NAME: WRTMSG
PURPOSE: **********
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

NTM/MPU Include File Description

FILE NAME: WTINIQ
PURPOSE: MODIFIED 10/08/84 ADD SUPPORT FOR IBM IISS NODE
BCS APM
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

NTM/MPU Include File Description

FILE NAME: WTIQFD
PURPOSE: MODIFIED 10/08/84 ADDED SUPPORT FOR IBM NODE BCS APM
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

NTM/MPU Include File Description

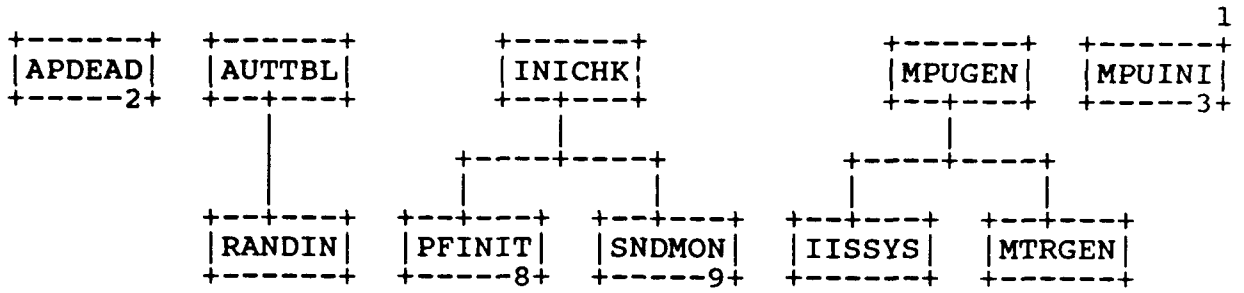
FILE NAME: WTIQST
PURPOSE: MODIFIED 10/08/84 ADDED SUPPORT FOR IBM NODE BCS APM
LANGUAGE: VAX-11 COBOL

DESCRIPTION:

3.10.10 Hierarchy Chart

The following hierarchy charts show the relationships between all of the modules mentioned in the above documentation. A module may call a subroutine several times within its code, but the call will only be shown once as a single relationship on this hierarchy chart. All modules shown at the top of the first page are considered Main Programs as described in section 3.10.1 above.

There is an internal paging scheme as marked by the numbers in the upper right corner of each page. An index after the last page of the chart shows where a routine and its calls are first defined. If a routine has no page reference, it either makes no calls or is an external routine. A continuation box on the end of a tree limb shows where that the tree continues on the page number mentioned. A number in a box with a routine name points to the page where the routine is further defined within the hierarchy tree. If there is no number in a box, the routine either makes no calls or is an external routine.


1
APDEAD
2
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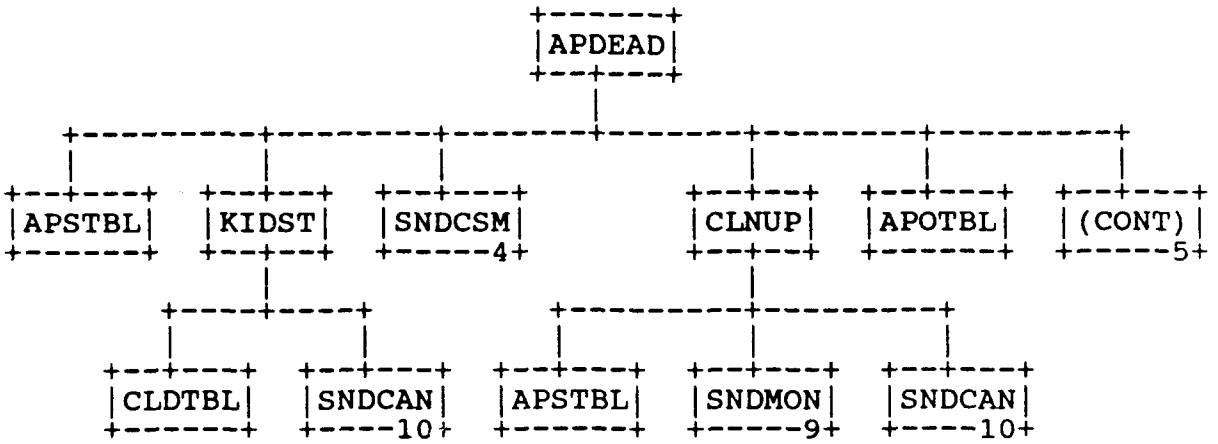
INICHK
MPUGEN
MPUINI
3
RANDIN
PFINIT
8
SNDMON
9
IISSYS
MTRGEN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APSTBL
KIDST
SNDCSM
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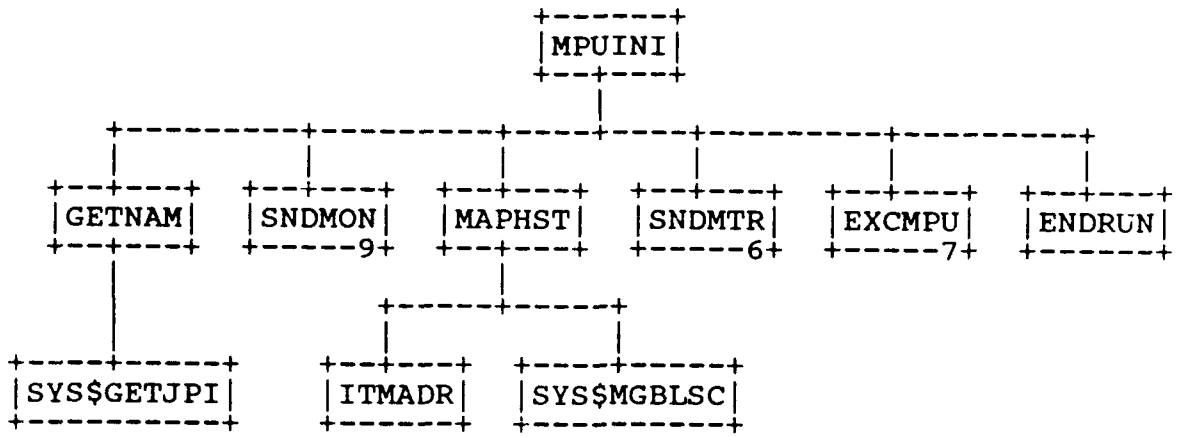
CLNUP
APOTBL
(CONT)
5
CLDTBL
SNDCAN
10
APSTBL
SNDMON
9
SNDCAN
10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GETNAM
SNDMON
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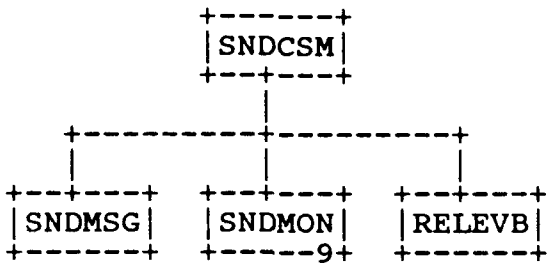
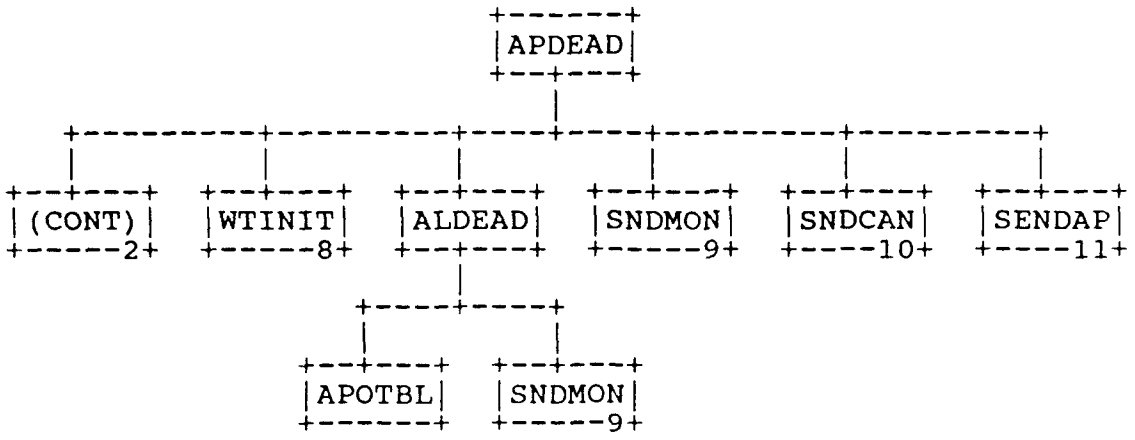
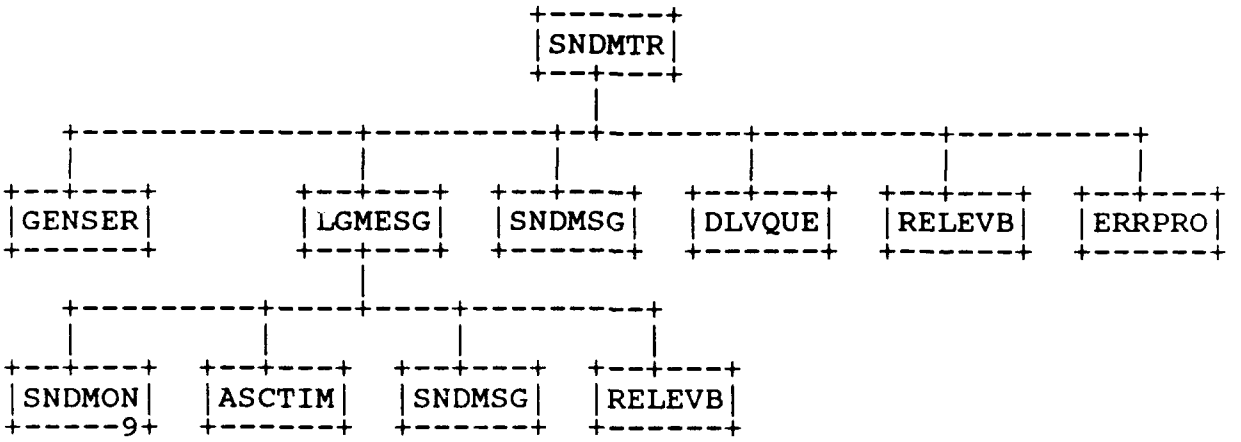
MAPHST
SNDMTR
6
EXCMPU
7
ENDRUN
SYS$GETJPI
ITMADR
SYS$MGBLSC


SNDCSM
SNDMSG
SNDMON
RELEVB

5


APDEAD
(CONT)
2
WTINIT
8
ALDEAD
SNDMON
9
SNDCAN
10
SENDAP
11
APOTBL
SNDMON
9

6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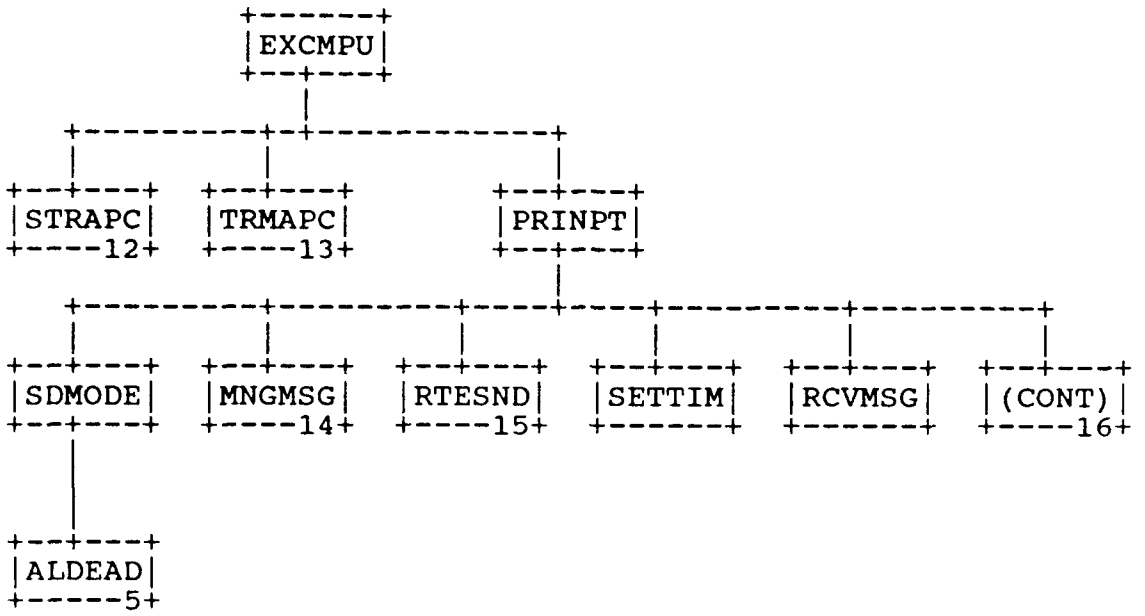
LGMESG
SNDMSG
DLVQUE
RELEVB
ERRPRO
SNDMON
ASCTIM
SNDMSG
RELEVB


EXCMPU
STRAPC
12
TRMAPC
13
PRINPT
SDMODE
MNGMSG
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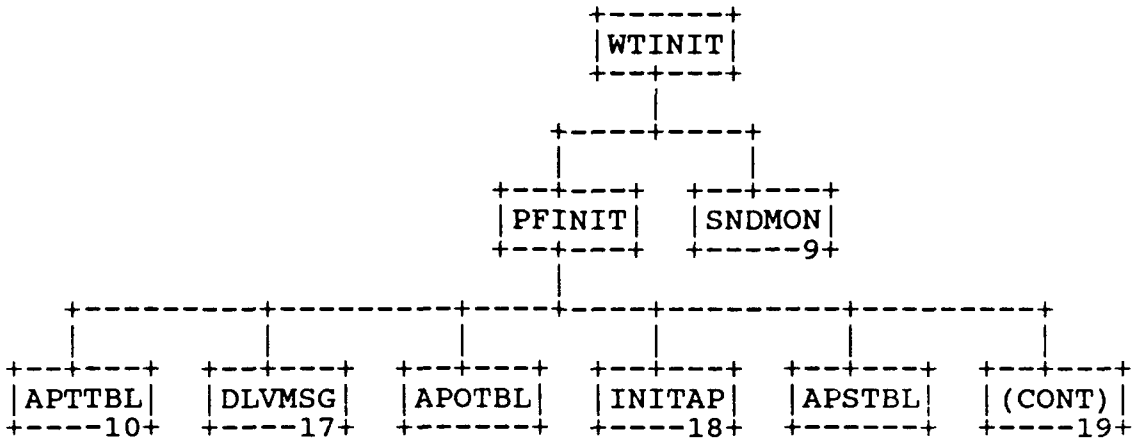
RTESND
15
SETTIM
RCVMSG
(CONT)
16
ALDEAD
5

8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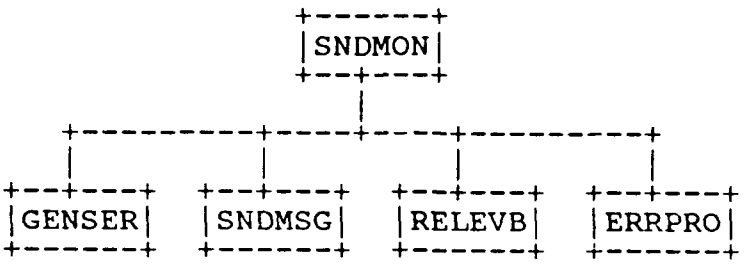
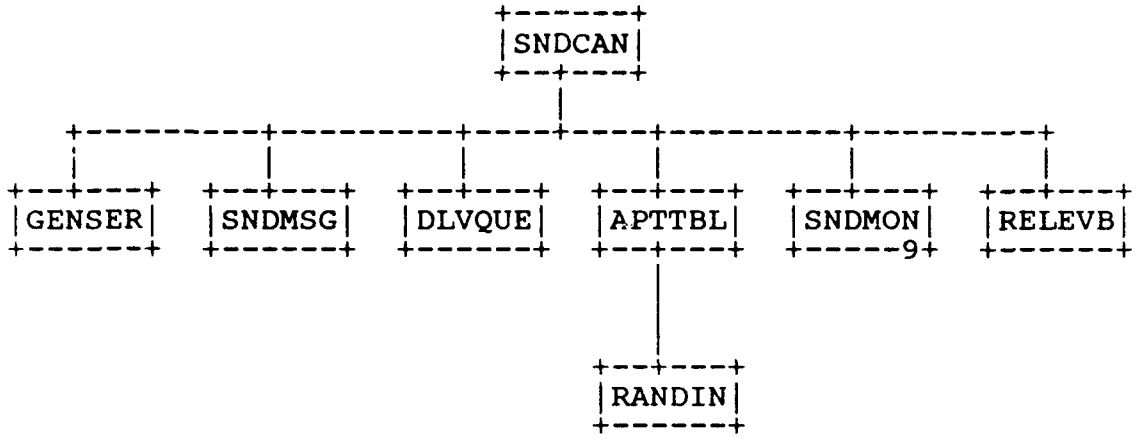
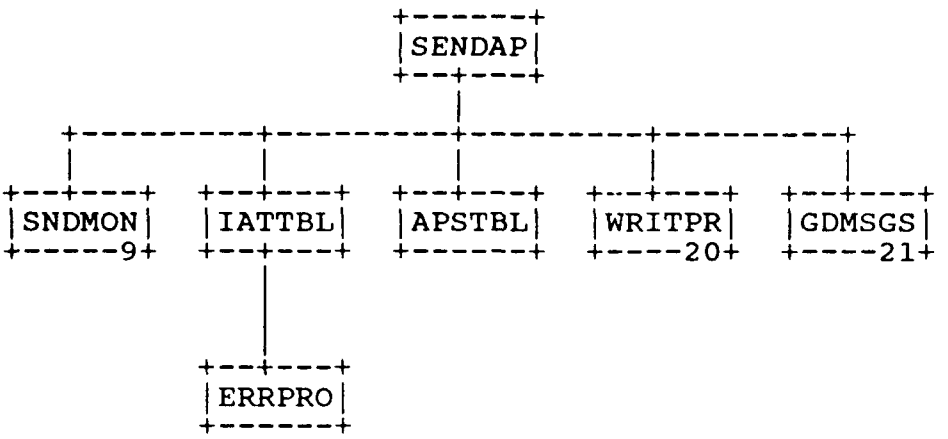
17
APOTBL
INITAP
18
APSTBL
(CONT)
19

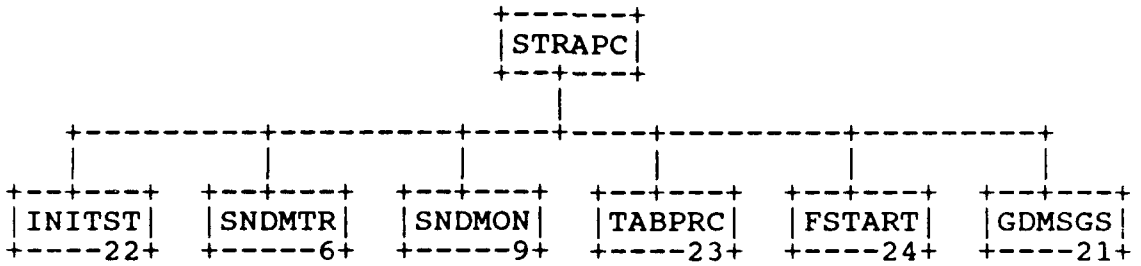

SNDMON
GENSER
SNDMSG
RELEVB
ERRPRO

10



11

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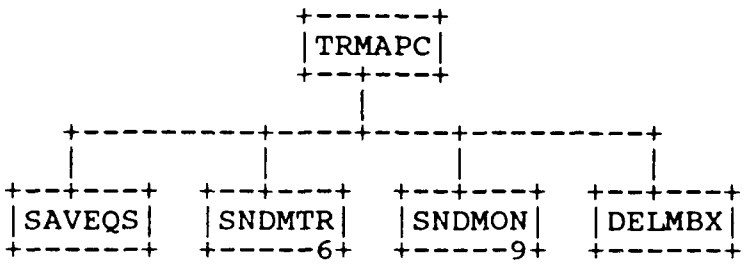
SNDMTR
6
SNDMON
9
TABPRC
23
FSTART
24
GDMSGS
21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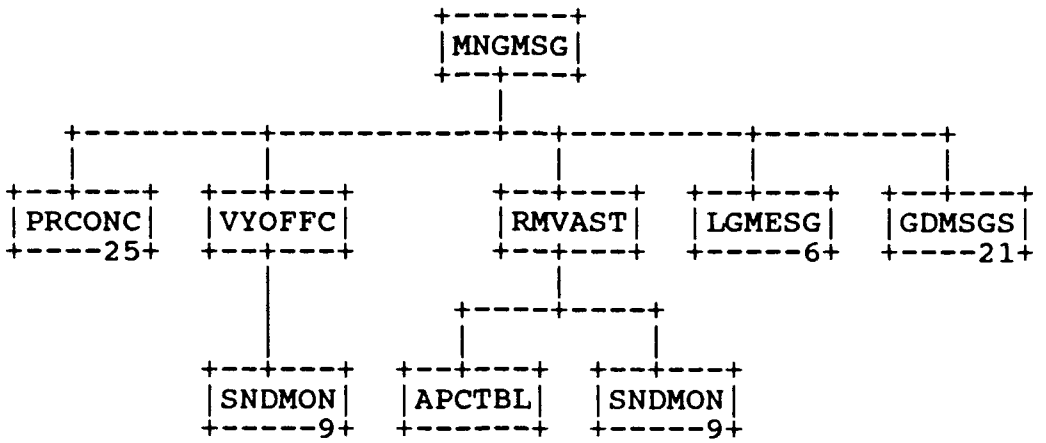
SAVEQS
SNDMTR
6
SNDMON
9
DELMBX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RMVAST
LGMESG
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GDMSGS
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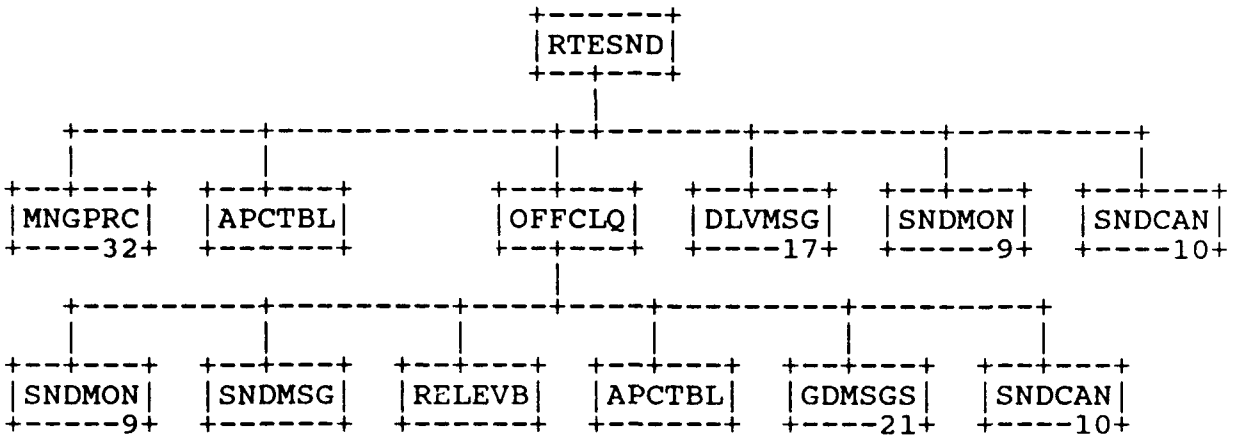
SNDMON
9
APCTBL
SNDMON
9

15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MNGPRC
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APCTBL
OFFCLQ
DLVMSG
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SNDMON
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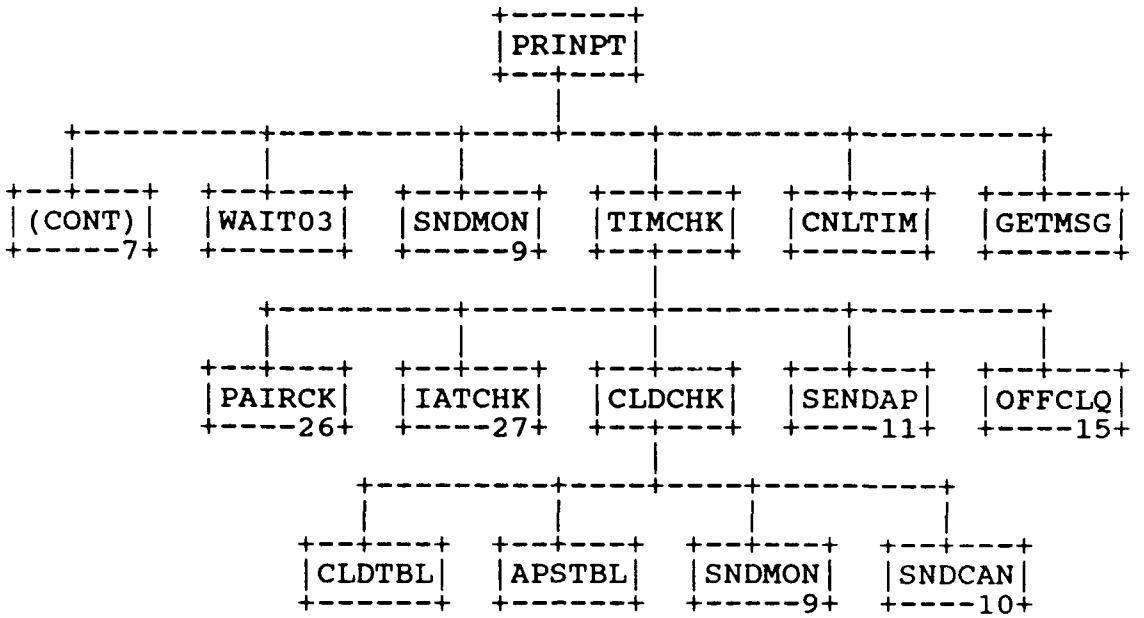
SNDCAN
10
SNDMON
9
SNDMSG
RELEVB
APCTBL
GDMSGS
21
SNDCAN
10


PRINPT
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WAIT03
SNDMON
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TIMCHK
CNLTIM
GETMSG
PAIRCK
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IATCHK
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CLDCHK
SENDAP
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OFFCLQ
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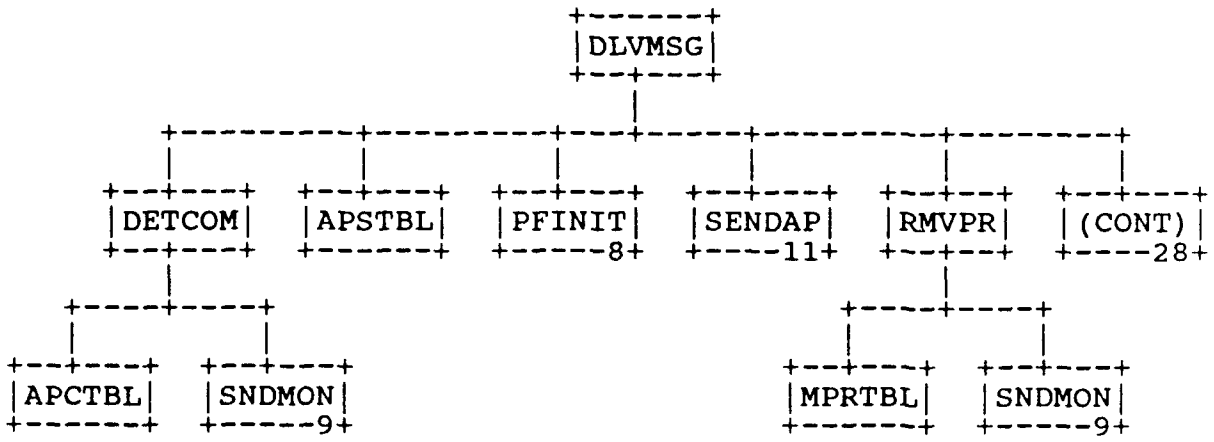
CLDTBL
APSTBL
SNDMON
9
SNDCAN
10

17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DETCOM
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PFINIT
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SENDAP
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RMVPR
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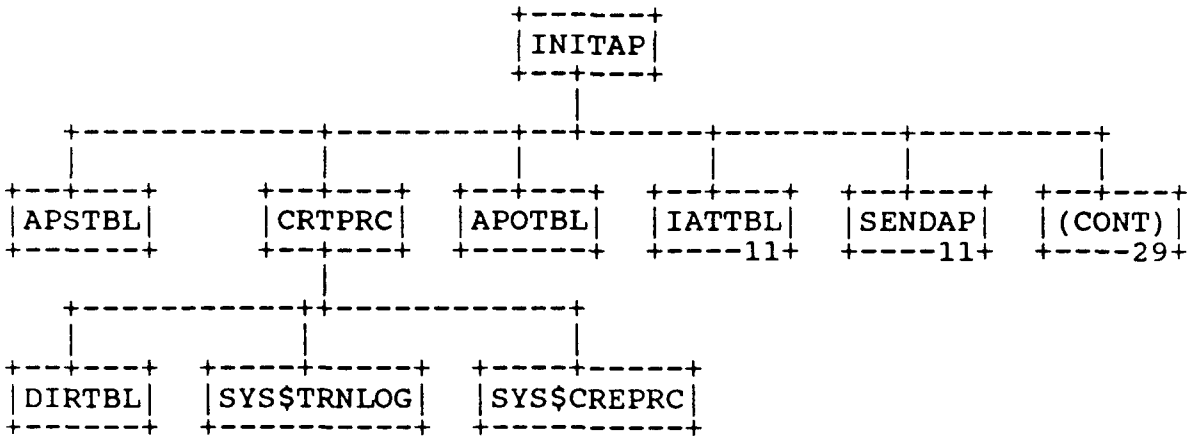
APCTBL
SNDMON
9
MPRTBL
SNDMON
9

18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CRTPRC
APOTBL
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SENDAP
11
(CONT)
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DIRTBL
SYS$TRNLOG
SYS$CREPRC

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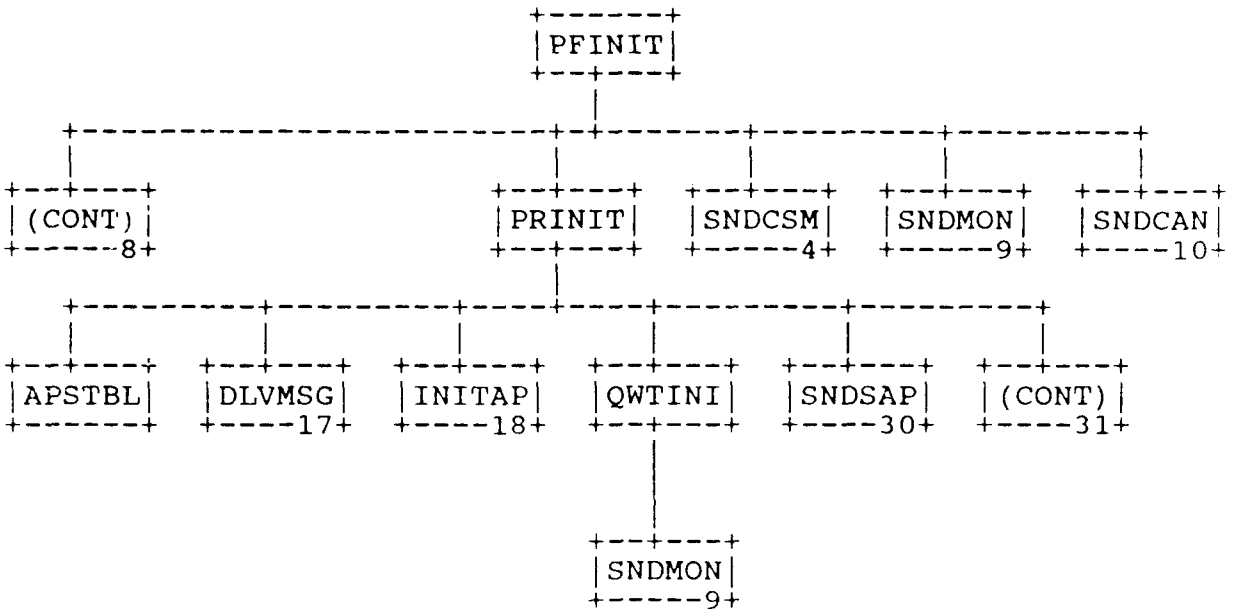
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PRINIT
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4
SNDMON
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DLVMSG
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18
QWTINI
SNDSAP
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(CONT)
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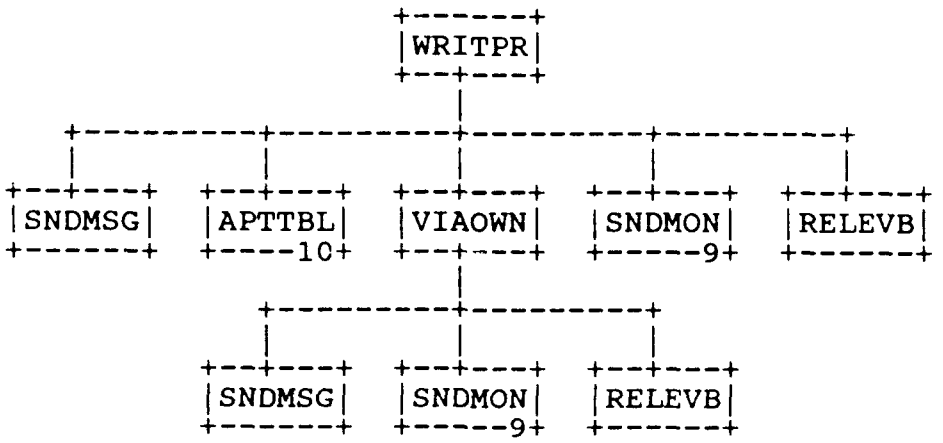
SNDMON
9

20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RELEVB
SNDMSG
SNDMON
9
RELEVB

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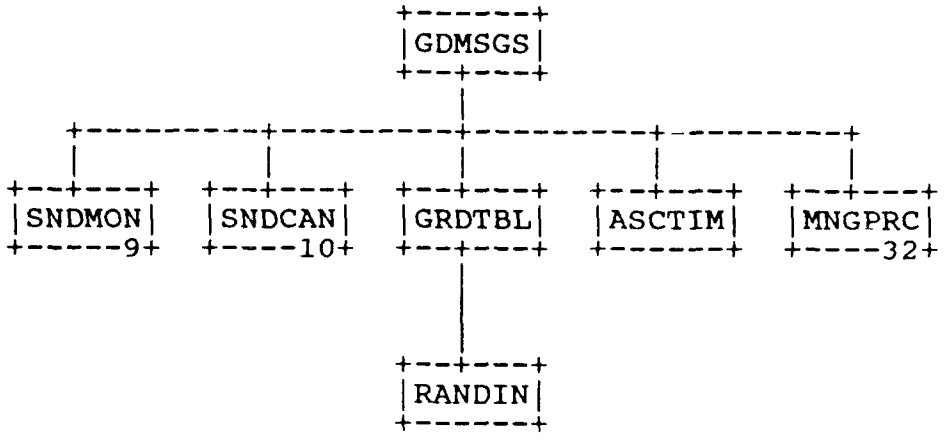

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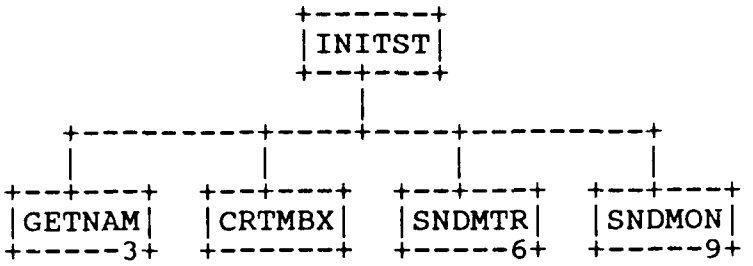

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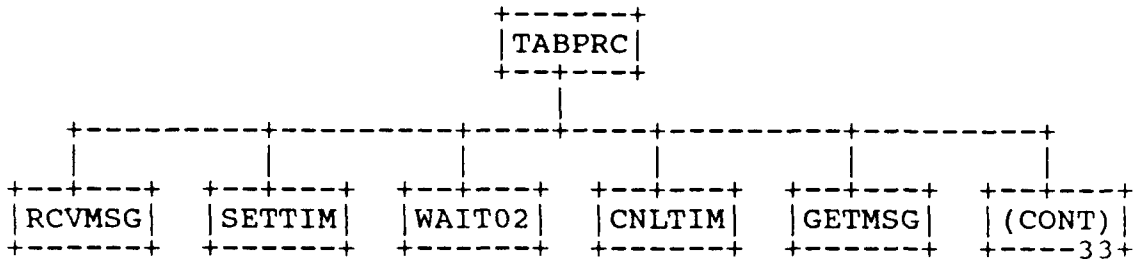

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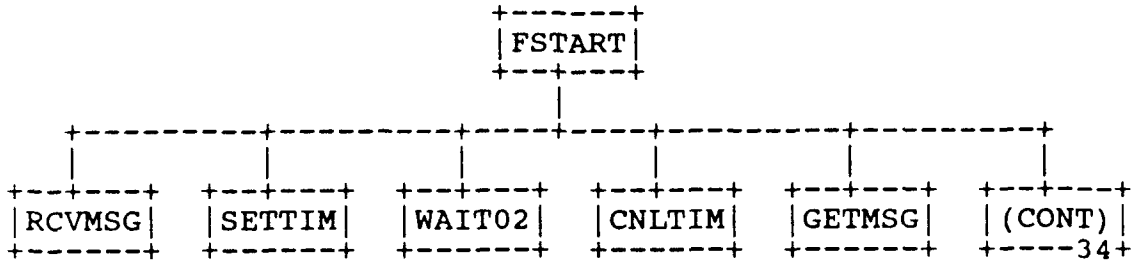

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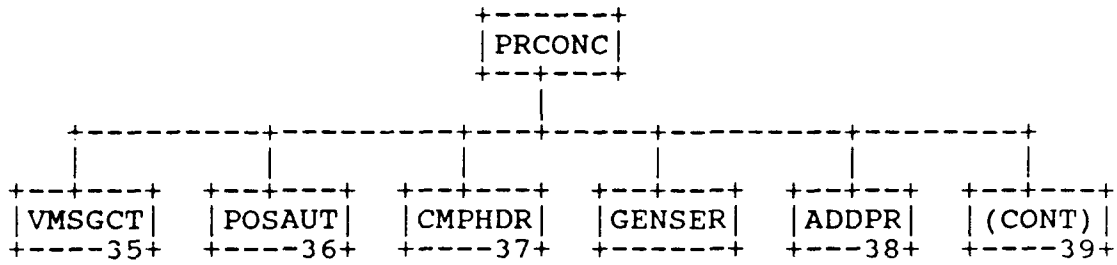

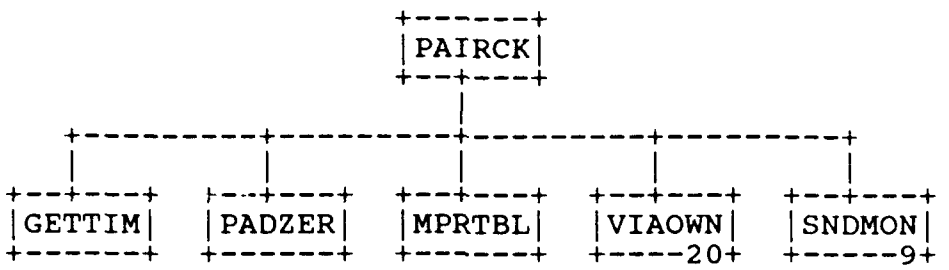
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MPRTBL
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SNDMON
9

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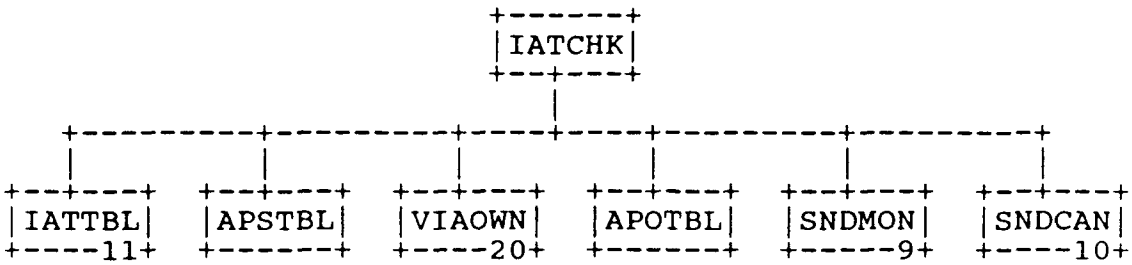

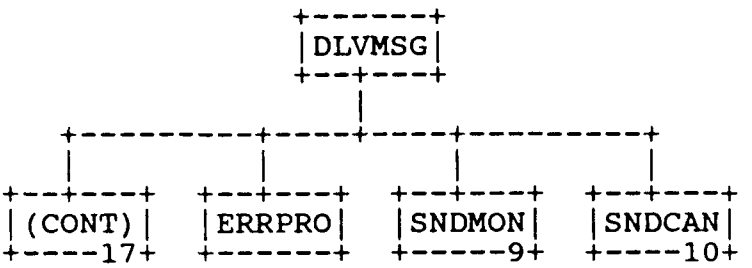
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SNDCAN
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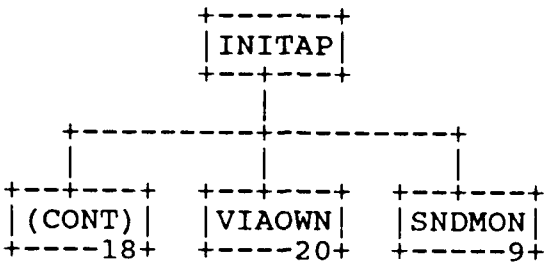
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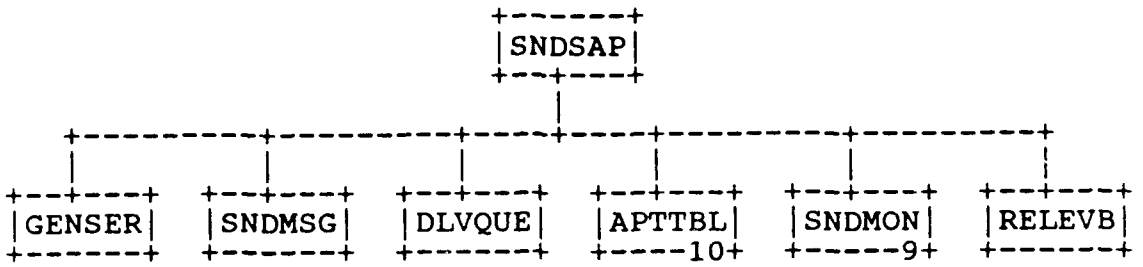
SNDMON
9

30



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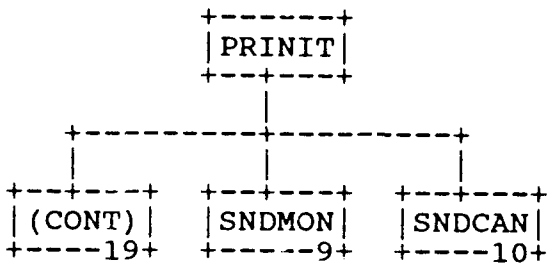

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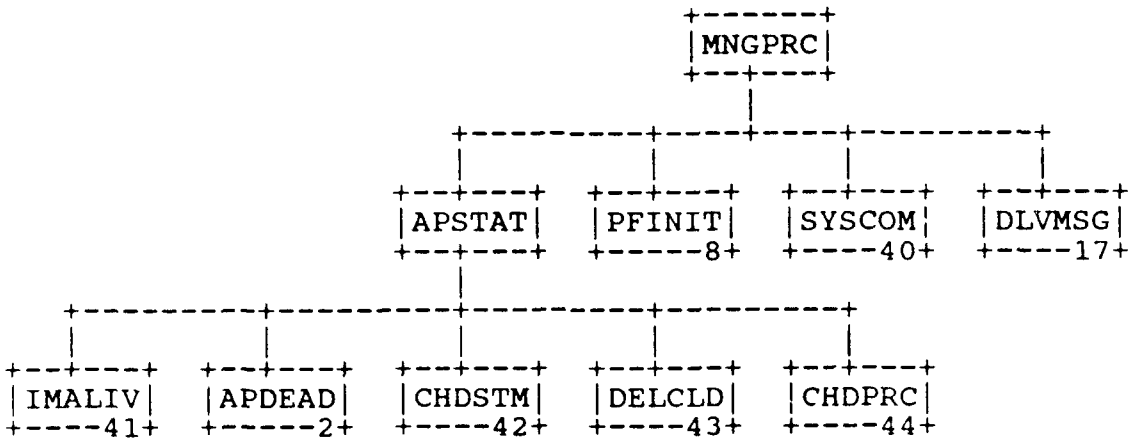
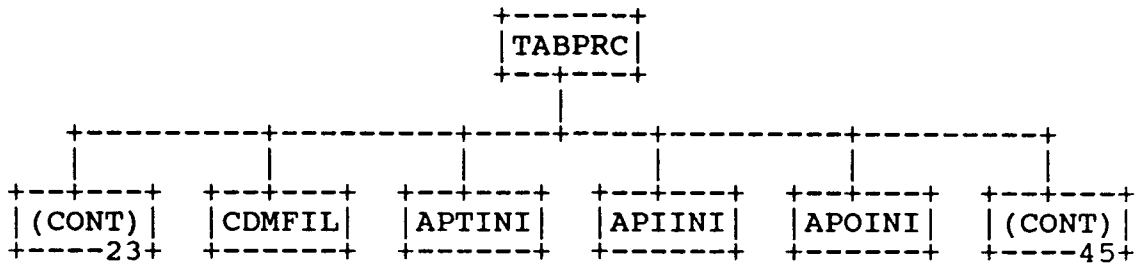

MNGPRC
APSTAT
PFINIT
8
SYSCOM
40
DLVMSG
17
IMALIV
41
APDEAD
2
CHDSTM
42
DELCLD
43
CHDPRC
44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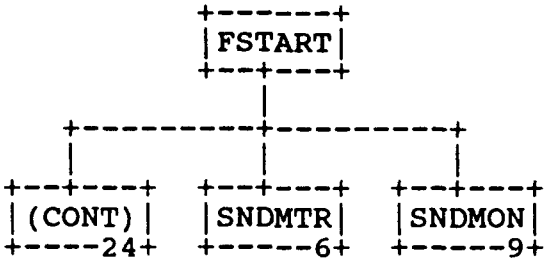
(CONT)
23
CDMFIL
APTINI
APIINI
APOINI
(CONT)
45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SNDMTR
6
SNDMON
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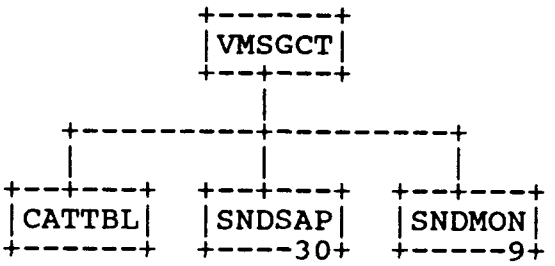

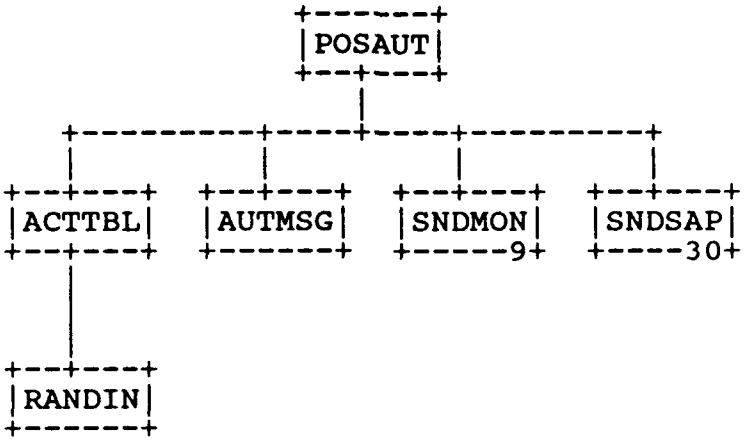
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ACTTBL
AUTMSG
SNDMON
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SNDSAP
30
RANDIN

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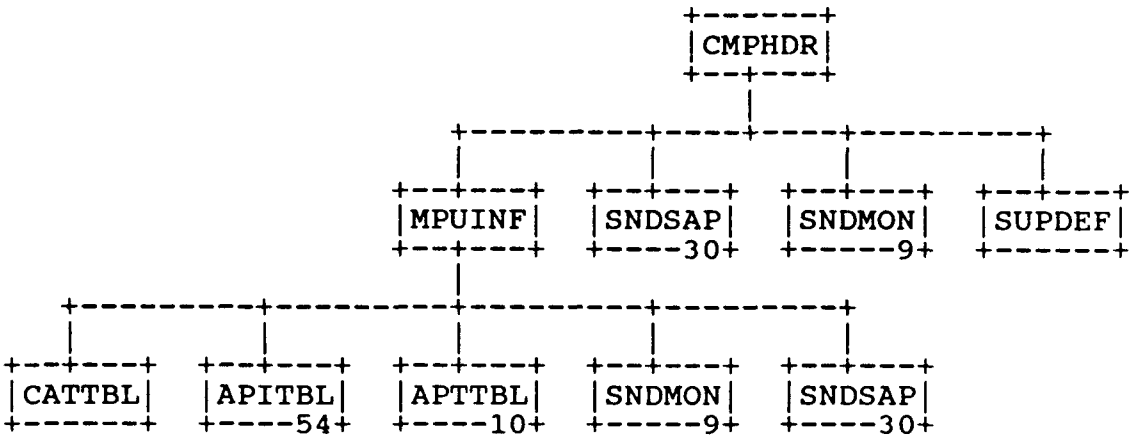
CMPHDR
MPUINF
SNDSAP
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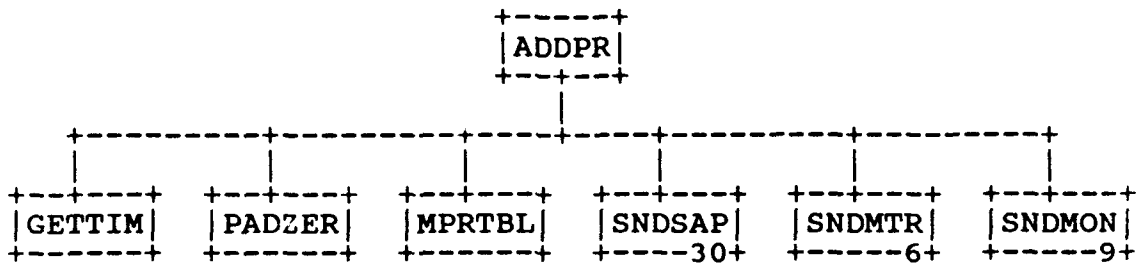
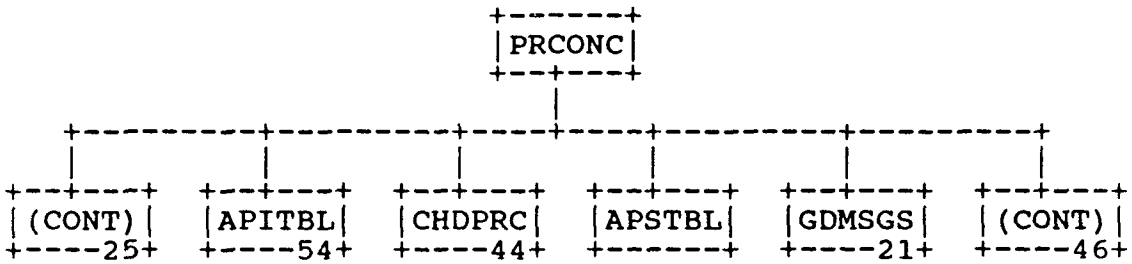
SNDMON
9
SUPDEF
CATTBL
APITBL
54
APTTBL
10
SNDMON
9
SNDSAP
30

38

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APITBL
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CHDPRC
44
APSTBL
GDMSGS
21
(CONT)
46

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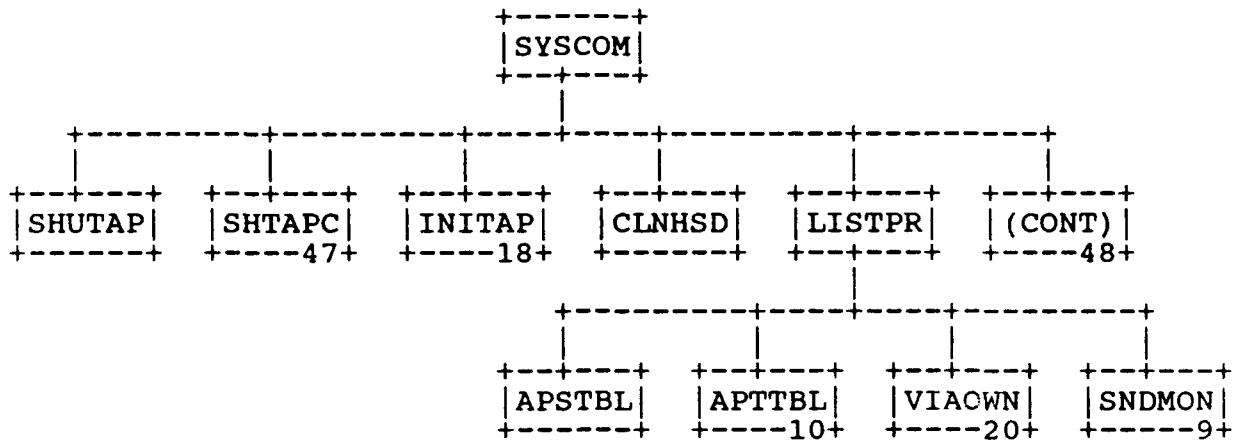
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SHUTAP
SHTAPC
47
INITAP
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CLNHSD
LISTPR
(CONT)
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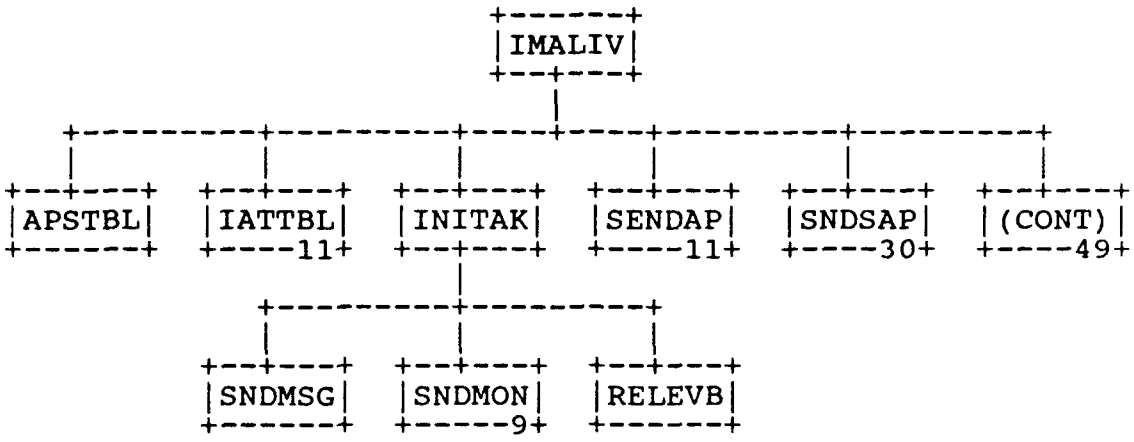
APSTBL
APTTBL
10
VIAOWN
20
SNDMON
9

41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IATTBL
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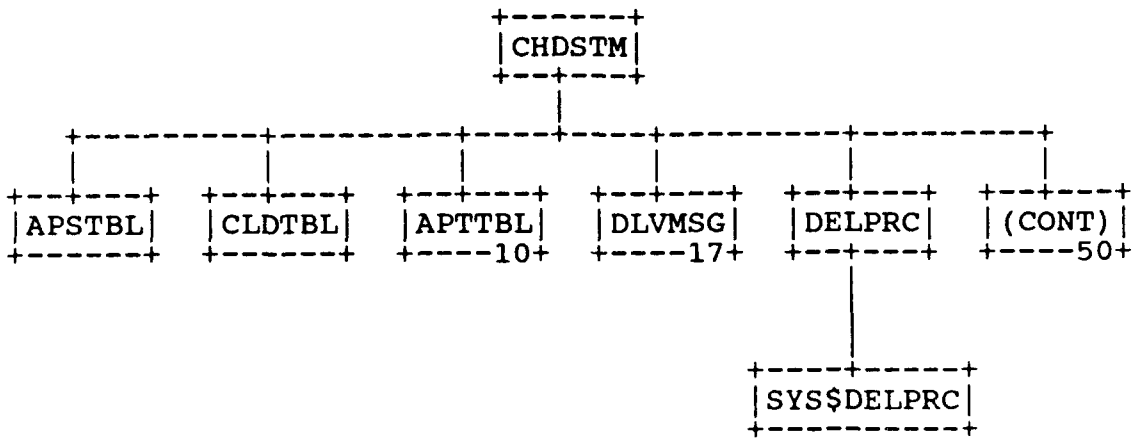
SENDAP
11
SNDSAP
30
(CONT)
49
SNDMSG
SNDMON
9
RELEVB

42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APTTBL
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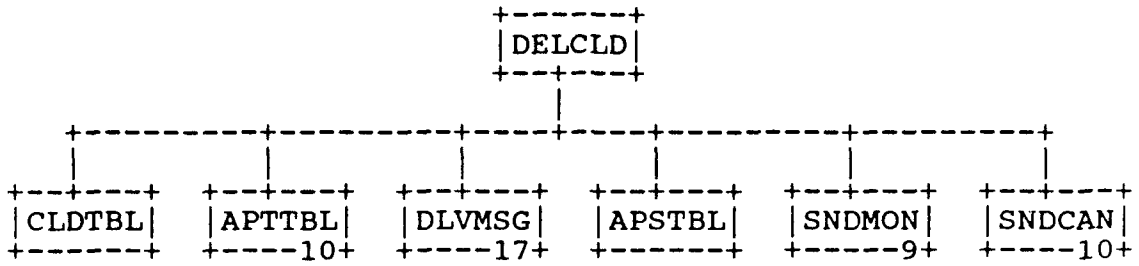

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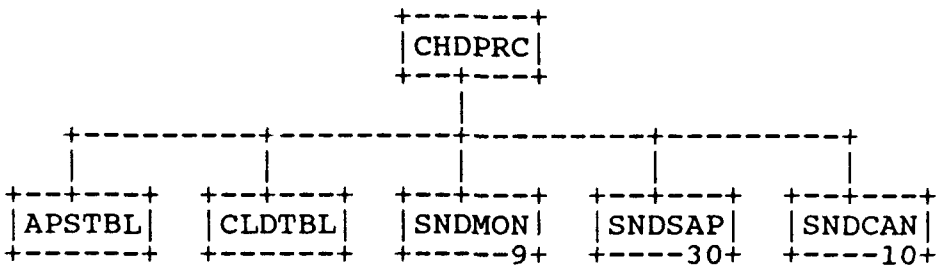

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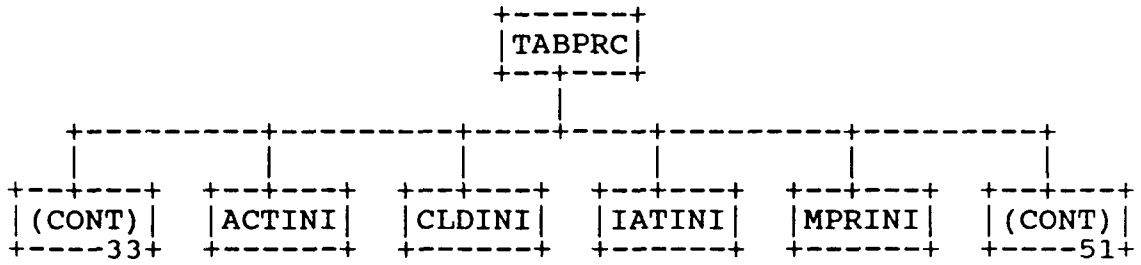

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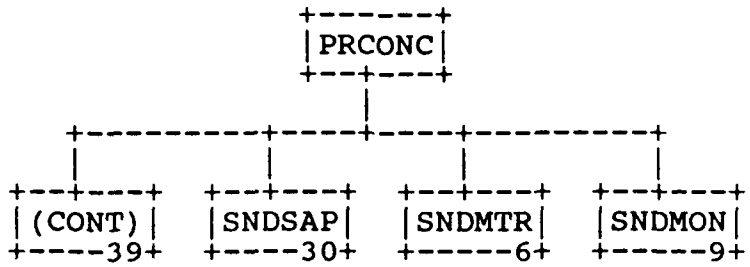

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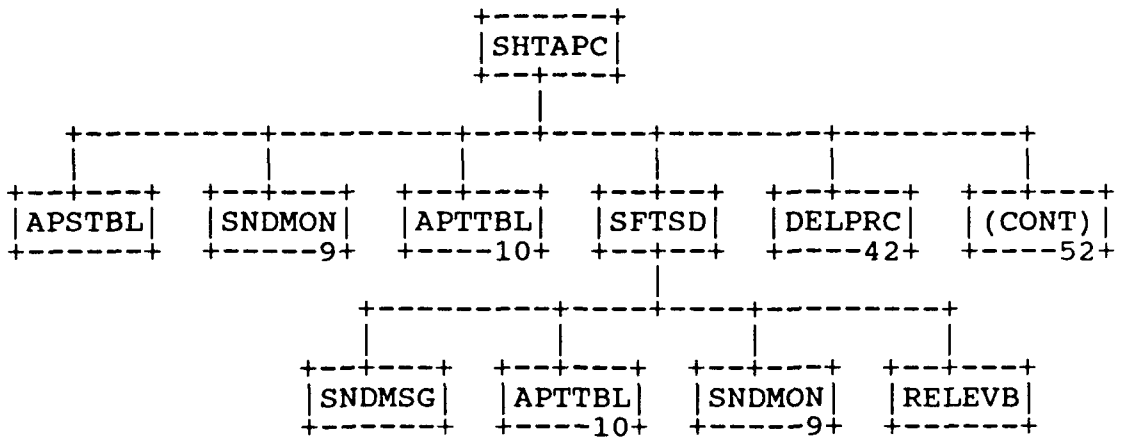
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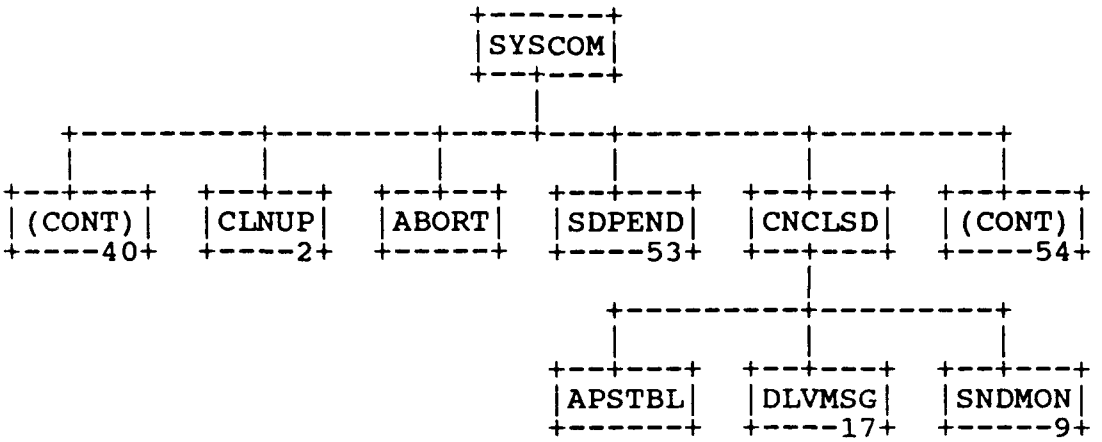
RELEVB

48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CLNUP
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ABORT
SDPEND
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CNCLSD
(CONT)
54
APSTBL
DLVMSG
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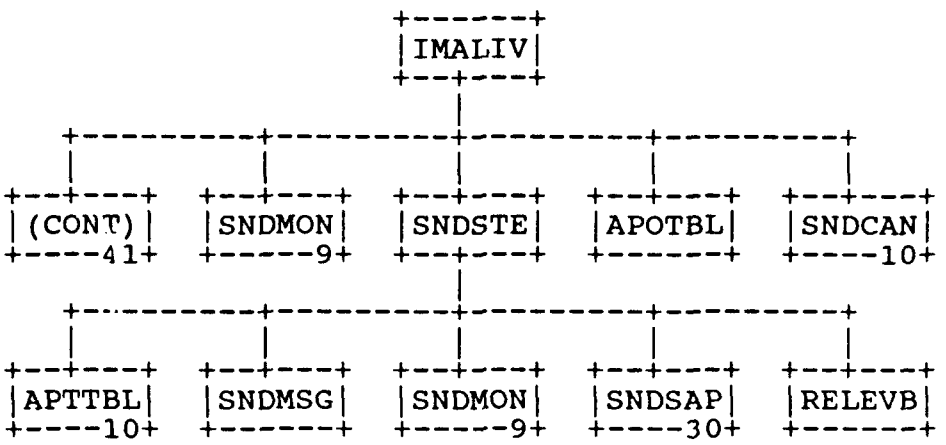
SNDMON
9

49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SNDCAN
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APTTBL
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SNDMON
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30
RELEVB

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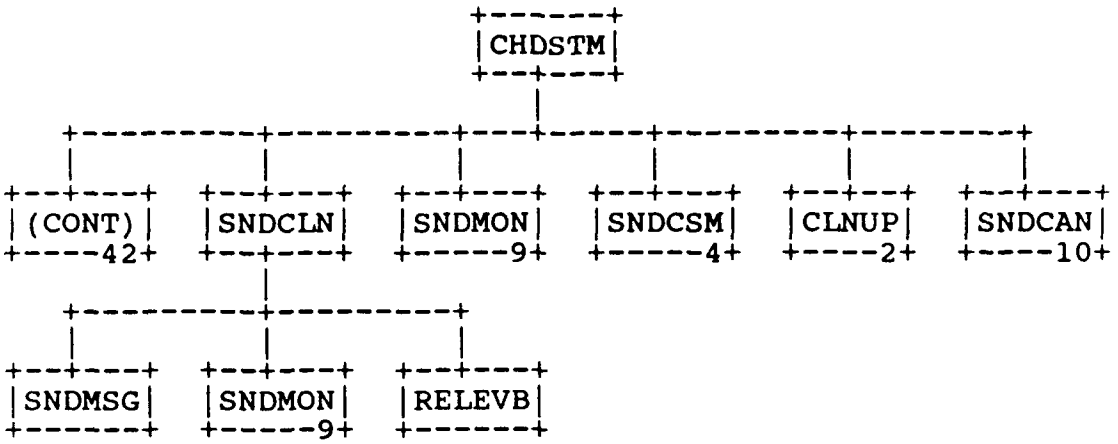
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10
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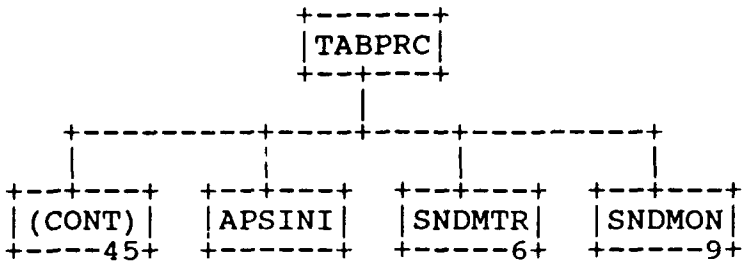
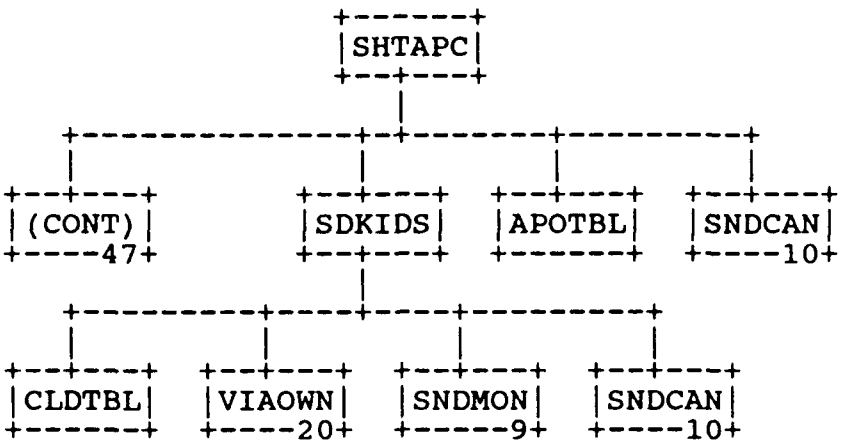
SNDMON
9
RELEVB

51

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VIAOWN
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SNDCAN
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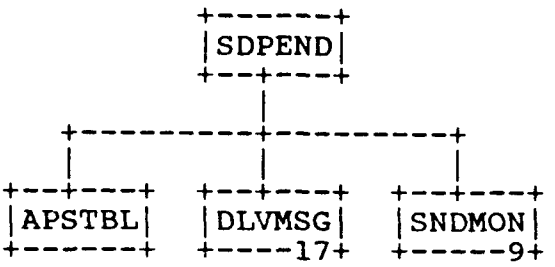
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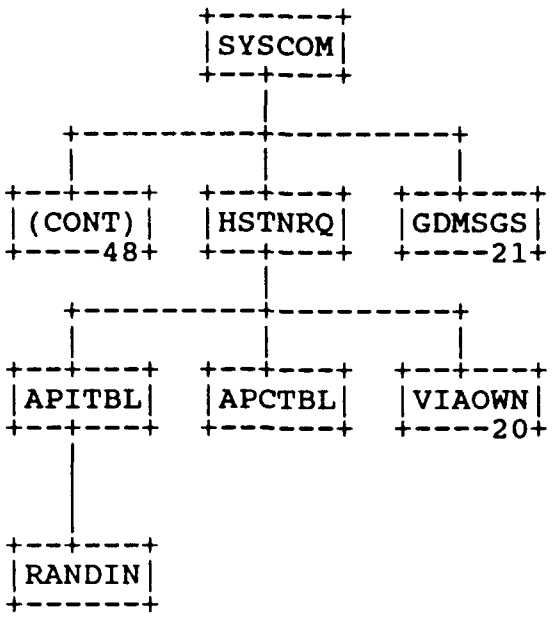
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APITBL
APCTBL
VIAOWN
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RANDIN

ABORT
ACTINI
ACTTBL.....36
ADDPR.....38
ALDEAD.....5
APCTBL
APDEAD.....2
APIINI
APITBL.....54
APOINI
APOTBL
APSINI
APSTAT.....32
APSTBL
APTINI
APTTBL.....10
ASCTIM
AUTMSG
AUTTBL.....1
CATTBL
CDMFIL
CHDPRC.....44
CHDSTM.....42
CLDCHK.....16
CLDINI
CLDTBL
CLNHSD
CLNUP.....2
CMPHDR.....37
CNCLSD.....48
CNLTIM
CRTMBX
CRTPRC.....18
DELCLD.....43
DELMBX
DELPRC.....42
DETCOM.....17
DIRTBL
DLVMSG.....17
DLVQUE
ENDRUN
ERRPRO
EXCMPU.....7
FSTART.....24
GDMSGS.....21
GENSER
GETMSG
GETNAM.....3
GETTIM
GRDTBL.....21
HSTNRQ.....54
IATCHK.....27
IATINI
IATTBL.....11
IISSYS
IMALIV.....41
INICHK.....1
INITAK.....41
INITAP.....18
INITST.....22
ITMADR
KIDST.....2
LGMESG.....6
LISTPR.....40
MAPHST.....3
MNGMSG.....14
MNGPRC.....32
MPRINI
MPRTBL
MPUGEN.....1
MPUINF.....37
MPUINI.....3
MTRGEN
OFFCLQ.....15
PADZER
PAIRCK.....26
PFINIT.....8
POSAUT.....36
PRCONC.....25
PRINIT.....19
PRINPT.....7
QWTINI.....19
RANDIN
RCVMSG
RELEVB
RMVAST.....14
RMVPR.....17
RTESND.....15
SAVEQS
SDKIDS.....52
SDMODE.....7
SDPEND.....53
SENDAP.....11
SETTIM
SFTSD.....47
SHTAPC.....47
SHUTAP
SNDCAN.....10
SNDCLN.....50
SNDCSM.....4
SNDMON.....9
SNDMSG
SNDMTR.....6
SNDSAP.....30
SNDSTE.....49
STRAPC.....12
SUPDEF
SYS$CREPRC
SYS$DELPRC
SYS$GETJPI
SYS$MGBLSC
SYS$TRNLOG
SYSCOM.....40
TABPRC.....23
TIMCHK.....16
TRMAPC.....13
VIAOWN.....20
VMSGCT.....35
VYOFFC.....14
WAIT02
WAIT03
WRITPR.....20
WTINIT.....8

3.11 Program Listings Comments

This information is contained in the Module Descriptions in section 3.10.

SECTION 4

QUALITY ASSURANCE PROVISIONS

4.1 Introduction and Definitions

"Testing" is a systematic process that may be preplanned and explicitly stated. Test techniques and procedures may be defined in advance and a sequence of test steps may be specified. "Debugging" is the process of isolation and correction of the cause of an error.

"Antibugging" is defined as the philosophy of writing programs in such a way as to make bugs less likely to occur and when they do occur, to make them more noticeable to the programmer and the user. In other words, as much error checking as is practical and possible in each routine should be performed.

4.2 Computer Programming Test and Evaluation

The quality assurance provisions for test consists of the normal testing techniques that are accomplished during the construction process. They consist of design and code walk-throughs, unit testing, and integration testing. These tests are performed by the design team. Structured design, design walk-through and the incorporation of "antibugging" facilitate this testing by exposing and addressing problem areas before they become coded "bugs".

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